

Chapter 1

Financial Statements and Business Decisions

ANSWERS TO QUESTIONS

- Accounting is a system that collects and processes (analyzes, measures, and records) financial information about an organization and reports that information to decision makers.
- Financial accounting involves preparation of the four basic financial statements and related disclosures for external decision makers. Managerial accounting involves the preparation of detailed plans, budgets, forecasts, and performance reports for internal decision makers.
- Financial reports are used by both internal and external groups and individuals. The internal groups are comprised of the various managers of the entity. The external groups include the owners, investors, creditors, governmental agencies, other interested parties, and the public at large.
- Investors purchase all or part of a business and hope to gain by receiving part of what the company earns and/or selling the company in the future at a higher price than they paid. Creditors lend money to a company for a specific length of time and hope to gain by charging interest on the loan.
- In a society each organization can be defined as a separate accounting entity. An accounting entity is the organization for which financial data are to be collected. Typical accounting entities are a business, a church, a governmental unit, a university and other nonprofit organizations such as a hospital and a welfare organization. A business typically is defined and treated as a separate entity because the owners, creditors, investors, and other interested parties need to evaluate its performance and its potential separately from other entities and from its owners.
- | <i>Name of Statement</i> | <i>Alternative Title</i> |
|--------------------------|---|
| (a) Income Statement | (a) Statement of Earnings; Statement of Income; Statement of Operations |
| (b) Balance Sheet | (b) Statement of Financial Position |
| (c) Audit Report | (c) Report of Independent Accountants |

- The heading of each of the four required financial statements should include the following:
 - Name of the entity
 - Name of the statement
 - Date of the statement, or the period of time
 - Unit of measure
- The purpose of the income statement is to present information about the revenues, expenses, and the income of the entity for a specified period of time.
 - The purpose of the balance sheet is to report the financial position of an entity at a given date, that is, to report information about the assets, obligations and stockholders' equity of the entity as of a specific date.
 - The purpose of the statement of cash flows is to present information about the flow of cash into the entity (sources), the flow of cash out of the entity (uses), and the net increase or decrease in cash during the period.
 - The statement of retained earnings reports the cumulative amount of earnings for a corporation less any dividends declared and paid.
- The income statement and the statement of cash flows are dated "For the Year Ended December 31, 20X," because they report the inflows and outflows of resources during a period of time. In contrast, the balance sheet is dated "At December 31, 20X" because it represents the resources, obligations and stockholders' equity at a specific date.
- Assets are important to creditors and investors because assets provide a basis for judging whether sufficient resources are available to operate the company. Assets are also important because they could be sold for cash in the event the company goes out of business. Liabilities are important to creditors and investors because the company must be able to generate sufficient cash from operations or further borrowing to meet the payments required by debt agreements. If a business does not pay its creditors, the law may give the creditors the right to force the sale of assets sufficient to meet their claims.
- Net income is the excess of total revenues over total expenses. Net loss is the excess of total expenses over total revenues. Breakeven is when the total revenues and total expenses are exactly equal.
- The accounting equation for the income statement is Revenues - Expenses = Net Income. Thus, the three major items reported on the income statement are (1) revenues, (2) expenses, and (3) income.

- The accounting equation for the balance sheet is: Assets = Liabilities + Stockholders' Equity. Assets are the probable (expected) future economic benefits owned by the entity as a result of past transactions. They are the resources owned by the business at a given point in time such as cash, receivables, inventory, machinery, buildings, land, and patents. Liabilities are probable (expected) debts or obligations of the entity as a result of past transactions which will be paid with assets or services in the future. They are the obligations of the entity such as accounts payable, notes payable, and bonds payable. Stockholders' equity is financing provided by owners of the business and operations. It is the claim of the owners to the assets of the business after the creditor claims have been satisfied. It may be thought of as the residual interest because it represents assets minus liabilities.
- The accounting equation for the statement of cash flows is: Cash flows from operating activities + Cash flows from investing activities + Cash flows from financing activities = Change in cash for the period. The net cash flows for the period represent the increase or decrease in cash that occurred during the period. Cash flows from operating activities are cash flows directly related to earning income (normal business activity including interest paid and income taxes paid). Cash flows from investing activities include cash flows that are related to the acquisition or sale of productive assets used by the company. Cash flows from financing activities are directly related to the financing of the enterprise itself.
- The accounting equation for the statement of retained earnings is: Ending Retained Earnings = Beginning Retained Earnings + Net Income - Dividends. It begins with beginning-of-the-year Retained Earnings which is the prior year's ending retained earnings reported on the balance sheet. The current year's Net Income reported on the income statement is added and the current year's Dividends are subtracted from this amount. The ending Retained Earnings amount is reported on the end-of-period balance sheet.
- Marketing managers and credit managers use customers' financial statements to decide whether to extend them credit for their purchases. Purchasing managers use potential suppliers' financial statements to judge whether the suppliers have the resources necessary to meet current and future demand. Human resource managers use financial statements as a basis for contract negotiations, to determine what pay rates the company can afford. The net income figure even serves as a basis to pay bonuses not only to management, but to other employees through profit sharing plans.
- The Securities and Exchange Commission (SEC) is the U.S. government agency which determines the financial statements that public companies must provide to stockholders and the measurement rules used in producing those statements. The Financial Accounting Standards Board (FASB) is the private sector body given the primary responsibility to work out the detailed rules which become generally accepted accounting principles.
- Management is responsible for preparing the financial statements and other information contained in the annual report and for the maintenance of a system of internal accounting policies, procedures and controls intended to provide reasonable assurance, at appropriate cost, that transactions are processed in accordance with company authorization and are properly recorded and reported in the financial statements, and that assets are adequately safeguarded. Independent auditors examine the financial reports (prepared by management) and the underlying records to assure that the reports represent what they claim and conform with generally accepted accounting principles (GAAP).
- A sole proprietorship is an unincorporated business owned by one individual. A partnership is an unincorporated association of two or more individuals to carry on a business. A corporation is a business that is organized under the laws of a particular state whereby a charter is granted and the entity is authorized to issue shares of stock as evidence of ownership by the owners (i.e., stockholders).
- A CPA firm normally renders three services: auditing, management advisory services, and tax services. Auditing involves examination of the records and financial reports to determine whether they "fairly present" the financial position and results of operations of the entity. Management advisory service involves management advice to the individual business enterprises and other entities. It is like a consulting firm. Tax service involves providing tax planning advice to clients (both individuals and businesses) and preparation of their tax returns.

Authors' Recommended Solution Time
(Time in minutes)

Mini-exercises		Exercises		Problems		Alternate Problems		Cases and Projects	
No.	Time	No.	Time	No.	Time	No.	Time	No.	Time
1	5	1	12	1	45	1	45	1	20
2	5	2	12	2	45	2	45	2	30
3	5	3	12	3	45			3	30
		4	20	4	45			4	60
		5	25					5	20
		6	20					6	30
		7	15					7	30
		8	25					8	20
		9	25					9	*
		10	30					10	*
		11	20					11	*
		12	12					12	*
		13	30					13	*
		14	30					14	*

* Due to the nature of these cases and projects, it is very difficult to estimate the amount of time students will need to complete the assignment. As with any open-ended project, it is possible for students to devote a large amount of time to these assignments. While students often benefit from the extra effort, we find that some become frustrated by the perceived difficulty of the task. You can reduce student frustration and anxiety by making your expectations clear. For example, when our goal is to sharpen research skills, we devote class time discussing research strategies. When we want the students to focus on a real accounting issue, we offer suggestions about possible companies or industries.

MINI-EXERCISES

M1-1.

	Element	Financial Statement
B	(1) Expenses	A. Balance Sheet
D	(2) Cash Flow from Investing Activities	B. Income Statement
A	(3) Assets	C. Statement of Retained Earnings
C	(4) Dividends	D. Statement of Cash Flows
B	(5) Revenues	
D	(6) Cash Flow from Operating Activities	
A	(7) Liabilities	
D	(8) Cash Flow from Financing Activities	

M1-2.

SE	(1) Retained earnings
A	(2) Accounts receivable
R	(3) Sales revenue
A	(4) Property, plant, and equipment
E	(5) Cost of goods sold expense
A	(6) Inventories
E	(7) Interest expense
L	(8) Accounts payable
A	(9) Land

M1-3.

Abbreviation	Full Designation
(1) CPA	Certified Public Accountant
(2) GAAP	Generally Accepted Accounting Principles
(3) CMA	Certified Management Accountant
(4) AICPA	American Institute of Certified Public Accountants
(5) SEC	Securities and Exchange Commission
(6) FASB	Financial Accounting Standards Board

EXERCISES

E1-1.

Term or Abbreviation	Definition
K (1) SEC	A. A system that collects and processes financial information about an organization and reports that information to decision makers.
G (2) Audit	B. Measurement of information about an entity in the monetary unit—dollars or other national currency.
J (3) Sole proprietorship	C. An unincorporated business owned by two or more persons.
E (4) Corporation	D. The organization for which financial data are to be collected (separate and distinct from its owners).
A (5) Accounting	E. An incorporated entity that issues shares of stock as evidence of ownership.
D (6) Separate entity	F. Initial recording of financial statement elements at acquisition cost.
J (7) Audit report	G. An examination of the financial reports to assure that they represent what they claim and conform with generally accepted accounting principles.
F (8) Cost principle	H. Certified Public Accountant.
C (9) Partnership	I. An unincorporated business owned by one person.
Q (10) AICPA	J. A report that describes the auditors' opinion of the fairness of the financial statement presentations and the evidence gathered to support that opinion.
L (11) FASB	K. Securities and Exchange Commission.
H (12) CPA	L. Financial Accounting Standards Board.
B (13) Unit of measure	M. A company that can be bought and sold by investors on established stock exchanges.
N (14) GAAP	N. Generally Accepted Accounting Principles.
M (15) Publicly traded	O. American Institute of Certified Public Accountants.

E1-2.

L	(1) Accounts payable
A	(2) Accounts receivable
A	(3) Cash and cash equivalents
E	(4) Cost of products sold
A	(5) Property, plant and equipment
E	(6) Income taxes
E	(7) Interest expense
A	(8) Inventories
A	(9) Land
E	(10) Marketing, administrative, and other operating expenses
L	(11) Long-term debt
R	(12) Net sales
L	(13) Notes payable
SE	(14) Retained earnings
L	(15) Taxes payable

E1-3.

L	(1) Accounts payable	A	(10) Buildings
A	(2) Accounts receivable	A	(11) Cash and cash equivalents
E	(3) Cost of goods sold	A	(12) Land
E	(4) Distribution and warehousing	A	(13) Machinery and equipment
L	(5) Dividends payable	E	(14) Marketing, selling and advertising
E	(6) General and administrative	R	(15) Net sales
L	(7) Income taxes payable	L	(16) Notes payable to banks
A	(8) Inventories	E	(17) Provision for income taxes*
A	(9) Investments	SE	(18) Retained earnings

*Note that "Provision for income taxes" is a common synonym for "Income tax expense."

E1-4.

Honda Motor Co., Ltd.
Balance Sheet
as of March 31, 20A
(in millions of Yen)

Cash and cash equivalents	¥ 150,554
Trade accounts, notes, and other receivables	817,761
Inventories	606,689
Investments	212,294
Net property, plant and equipment	1,008,196
Other assets	213,845
Total assets	<u>¥3,009,339</u>
Accounts payable and other current liabilities	¥1,308,748
Long-term debt	569,479
Other liabilities	94,485
Contributed capital	281,208
Retained earnings	755,419
Total liabilities and stockholders' equity	<u>¥3,009,339</u>

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E1-5.

Req. 1

READ MORE STORE
Balance Sheet
At December 31, 20A

ASSETS		LIABILITIES	
Cash	\$48,900	Accounts payable	\$8,000
Accounts receivable	26,000	Note payable	2,000
Store and office equipment	<u>48,000</u>	Interest payable	<u>120</u>
		Total liabilities	\$10,120
		STOCKHOLDERS' EQUITY	
		Contributed capital	\$100,000
		Retained earnings	<u>12,780</u>
		Total stockholders' equity	<u>112,780</u>
Total assets	<u>\$122,900</u>	Total liabilities and stockholders' equity	<u>\$122,900</u>

Req. 2

Net income for the year was \$12,780. This is the first year of operations and no dividends were declared or paid to stockholders; therefore, retained earnings is \$12,780 (which represents income for one year).

E1-6.

THE COLLEGIATE SHOP
Income Statement
For the Month of January 20A

Revenue from Sales:	
Sales: Cash	\$120,000
On credit	<u>1,000</u>
Total sales revenue	\$121,000
Expenses:	
Cost of goods sold	\$40,000
Salaries, rent, supplies, and other expenses (paid in cash)	38,000
Utilities	<u>600</u>
Total Expenses	<u>78,600</u>
Net Income	<u>\$42,400</u>

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E1-7.

WAL-MART STORES, INC.
Income Statement
For the Quarter ended October 31, 20A
(in thousands)

Net sales	\$20,417,717
Rental and other income	<u>235,116</u>
Total revenues	\$20,652,833
Cost of sales	\$16,200,873
Operating, selling and general and administrative expenses	3,340,263
Interest costs	<u>184,190</u>
Total costs and expenses	<u>19,725,326</u>
Pretax income	\$ 927,507
Provision for income taxes*	<u>339,422</u>
Net income	<u>\$ 588,085</u>

*Note that "Provision for income taxes" is a common synonym for "Income tax expense."

E1-8.

HOME REALTY, INCORPORATED
Income Statement
For the Year Ended December 31, 20C

Revenue:	
Commissions earned (\$150,000+\$16,000)	\$166,000
Rental service fees	<u>20,000</u>
Total revenues	\$186,000
Expenses:	
Salaries expense	\$ 62,000
Commission expense	35,000
Payroll tax expense	2,500
Rent expense (\$2,200+\$200)*	2,400
Utilities expense	1,600
Promotion and advertising expense	8,000
Miscellaneous expenses	<u>500</u>
Total expenses (excluding income taxes)	<u>112,000</u>
Pretax income	\$74,000
Income tax expense	<u>18,500</u>
Net Income	<u>\$55,500</u>

*\$2,200 has been paid for 11 months (\$200 per month) plus \$200 owed for December.

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E1-9.

- A Net Income = \$100,000 - \$82,000 = \$18,000;
Stockholders' Equity = \$150,000 - \$70,000 = \$80,000.
- B Total Revenues = \$80,000 + \$12,000 = \$92,000;
Total Liabilities = \$112,000 - \$60,000 = \$52,000.
- C Net Income = \$80,000 - \$86,000 = (\$6,000);
Stockholders' Equity = \$104,000 - \$26,000 = \$78,000.
- D Total Expenses = \$50,000 - \$13,000 = \$37,000;
Total Assets = \$22,000 + \$77,000 = \$99,000.
- E Total Revenues = \$81,000 - \$6,000 = \$75,000;
Total Assets = \$73,000 + \$28,000 = \$101,000.

E1-10.

CLAY CORPORATION
Income Statement
For the Month of January 20A

Total revenues	\$130,000
Less: Total expenses (excluding income tax)	<u>80,000</u>
Pretax income	\$ 50,000
Less: Income tax expense	<u>15,000</u>
Net income	<u>\$ 35,000</u>

CLAY CORPORATION
Balance Sheet
At January 31, 20A

Assets	
Cash	\$30,000
Receivables from customers	15,000
Merchandise inventory	<u>42,000</u>
Total assets	<u>\$87,000</u>
Liabilities:	
Payables to suppliers	\$11,000
Income taxes payable	<u>15,000</u>
Total liabilities	26,000
Stockholders' equity:	
Contributed capital (2,600 shares)	\$26,000
Retained earnings (from income statement above)	<u>35,000</u>
Total liabilities and stockholders' equity	<u>\$87,000</u>

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E1-11.

1. Average monthly revenue, $\$216,000 \div 12 = \$18,000$.
2. Monthly rent, $\$21,000 \div 12 = \$1,750$.
3. "Supplies, \$25,000" is an expense because it represents the cost of supplies used in performing the services sold. Use of the supplies caused their purchase cost to be an expense of the period when used.
4. "Interest" is an expense because it represents the cost of borrowing. The company has an outstanding loan (from another party) and this \$8,000 is the amount of interest (owed, if not already paid) on that debt; therefore the interest for 20A on the loan is an expense of 20A (whether or not paid by December 31).
5. Average income tax rate, $\$21,000 \div \$60,000 = 35\%$.
6. Standing alone, the income statement does not report, or make it possible to determine, the ending cash balance. This financial item is reported on the balance sheet under assets and on the cash flow statement as the final amount reported.
7. Price/earnings ratio, $\$468,000/\$39,000 = 12$.

E1-12.

- | | | |
|------------|-----|--|
| <u>(O)</u> | (1) | Cash paid to suppliers and employees |
| <u>O</u> | (2) | Cash received from customers |
| <u>(O)</u> | (3) | Income taxes paid |
| <u>O</u> | (4) | Interest and dividends received |
| <u>(O)</u> | (5) | Interest paid |
| <u>I</u> | (6) | Proceeds from sale of investment in Conner Peripherals, Inc. |
| <u>(I)</u> | (7) | Purchases of property, plant, and equipment |
| <u>(F)</u> | (8) | Repayment of borrowings |

E1-13.

NITSU MANUFACTURING CORPORATION
Statement of Cash Flows
For the Year Ended December 31, 20D

Cash flow from operating activities	
Revenues	\$270,000
Expenses	<u>(180,000)</u>
Net cash flow from operating activities	\$90,000
Cash flow from investing activities	
Sale of land	15,000
Purchase of new machines	<u>(38,000)</u>
Net cash flow from investing activities	(23,000)
Cash flow from financing activities	
Sale of capital stock	30,000
Payment on long-term notes	<u>(80,000)</u>
Payment of cash dividends	<u>(22,000)</u>
Net cash flow from financing activities	<u>(72,000)</u>
Net decrease in cash	(5,000)
Cash at beginning of year	63,000
Cash at end of year	<u>\$58,000</u>

E1-14.

Req. 1

PAUL'S PAINTERS
Cash Flow from Operations
For the Month of January 20A

Cash Inflows	
Cash services	\$105,000
Cash Outflows:	
Salaries and wages	\$50,000
Other expenses paid	<u>26,000</u>
Total cash outflows	<u>76,000</u>
Difference: Net increase (decrease) in cash	<u>\$29,000</u>

Req. 2

Reconciliation with income:	
Income (positive)	\$40,500
Noncash services	<u>(30,500)</u>
Noncash expenses (\$3,000 + \$2,000 + \$500 + \$13,500)	<u>19,000</u>
Net increase (decrease) in cash	<u>\$29,000</u>

PROBLEMS

(Note to the instructor: Most students find the Problems in this chapter to be quite challenging.)

P1-1.

Req. 1

NUCLEAR COMPANY
Income Statement
For the Year Ended December 31, 20A

Total sales revenue (given)	\$140,000
Total expenses (given)	<u>89,100</u>
Pretax income	50,900
Income tax expense (\$50,900 x 30%)	<u>15,270</u>
Net income	<u>\$ 35,630</u>

Req. 2

NUCLEAR COMPANY
Balance Sheet
At December 31, 20A

Assets:	
Cash (given)	\$25,000
Receivables from customers (given)	12,000
Inventory of merchandise (given)	90,000
Equipment (given)	<u>45,000</u>
Total Assets	<u>\$172,000</u>
Liabilities:	
Accounts payable	\$47,370
Salary payable (given)	<u>2,000</u>
Total Liabilities	\$ 49,370
Stockholders' equity:	
Contributed capital (given)	\$87,000
Retained earnings*	<u>35,630</u>
Total stockholders' equity	<u>122,630</u>
Total liabilities and stockholders' equity	<u>\$172,000</u>

*Beginning RE (\$-0-) + Net income (\$35,630) - Dividends (\$-0-) = Ending RE (\$35,630).

P1-2.

Req. 1

SUSAN'S LAWN SERVICE
Income Statement
For the Three Months Ended August 31, 20A

Revenues from services:	
Lawn service—cash	\$12,600
—credit	<u>800</u>
Total revenues	\$13,400
Expenses:	
Gas, oil, and lubrication (\$920+\$200)	1,120
Pickup repairs	210
Repair of mowers	75
Miscellaneous supplies used	80
Helpers (wages)	4,500
Payroll taxes	175
Preparation of payroll tax forms	25
Insurance	125
Telephone	110
Interest expense on note paid	75
Equipment use cost (depreciation)	<u>500</u>
Total expenses	<u>6,995</u>
Net income	<u>\$6,405</u>

Req. 2

Because the above report reflects only revenues, expenses, and net income, it is reasonable to suppose that Susan would need the following:

- (1) A balance sheet—that is, a statement that reports for the business, at the end of 20A, each asset (name and amount, such as Cash, \$XX), each liability (such as Wages Payable, \$XX), and stockholders' equity.
- (2) A Statement of Cash Flows—that is, a statement of the inflows and outflows of cash during the period in three categories: operations, investing, and financing.

P1-3.

Req. 1		Req. 2—Explanation	
Transaction	Income	Cash	
(a)	\$+66,000	\$+55,000	All services performed increase income; cash received during the period was, \$66,000 x 5/6 = \$55,000.
(b)	-0-	+30,000	Cash borrowed is not income.
(c)	-0-	-2,700	Purchase of the truck does not represent an expense; cash outflow was, \$9,000 x 30% = \$2,700.
(d)	-36,000	-30,000	All expenses incurred reduce income; cash expended was, \$36,000 x 5/6 = \$30,000.
(e)	-2,400	-2,250	Not all of the supplies were used; expense is the amount used, \$3,000 x 4/5 = \$2,400. Cash paid during the quarter was, \$3,000 x 3/4 = \$2,250.
(f)	-21,000	-10,500	All of the wages incurred reduce income, \$21,000; cash paid during the quarter was, \$21,000 x 1/2 = \$10,500. The \$10,500 owed will be paid on the next payroll date.

Based only on the above:

Income (loss)	<u>\$6,600</u>
Cash inflow (outflow)	<u>\$ 39,550</u>

P1-4.

Req. 1
The personal residences of the organizers are not resources of the business entity. Therefore, they should be excluded.

Req. 2
It is not indicated whether the \$68,000 listed for service trucks and equipment is their cost when acquired or the current market value on December 31, 20A.

Req. 3
The list of company resources (i.e., assets) suggests the following areas of concern:

Company resources:

- (1) Cash, inventories, and bills due from customers (i.e., accounts receivable)—these items tend to fluctuate; they may be significantly more or less at date of the loan and during the term of the loan.
- (2) Service trucks and equipment—as noted above, it is not indicated whether the \$68,000 is cost when acquired or current market value on December 31, 20A.
- (3) Personal residences—as noted above, these items are not resources of the business entity and should be excluded. Usually they would not be subject to creditors' claims against the corporation. Also, there is no indication whether the \$190,000 is cost at acquisition or current market value at December 31, 20A. Also, there is no indication as to any amounts that might be owed on the residences.

Company obligations:

- (4) Unpaid wages of \$19,000, which are now due, pose a serious problem because only \$12,000 cash currently is available.
- (5) Unpaid taxes and accounts payable to suppliers—it is not clear when these payments of \$8,000 and \$10,000, respectively, are due (cash needed to pay them is a problem).
- (6) The \$50,000 owed on the service trucks probably is long term; however, short-term installments may be required—these details are very important to the bank.
- (7) Loan from organizer—the expected payment date and interest rate are important issues for which details are not provided. This is a major cash demand.

In general, the bank should request more details about the specific resources and debts. The personal residences are not a part of the resources of the business entity. The bank should request that the owners provide audited information about the entity's assets and debts.

P1-4. (continued)

Req. 4
The amount of net resources (i.e., assets minus liabilities) for West Company, assuming the amounts provided by the owners are acceptable, would be:

Assets (\$322,000–\$190,000)	<u>\$132,000</u>
Liabilities	<u>97,000</u>
Net resources of the company	<u>\$35,000</u>

ALTERNATE PROBLEMS

AP1-1.

Req. 1

MCCLAREN CORPORATION
Income Statement
For the Year Ended June 30, 20C

Total sales revenue (given)	\$90,000
Total expenses (given)	<u>60,500</u>
Pretax income	29,500
Income tax expense (\$29,500 x 30%)	<u>8,850</u>
Net income	<u>\$20,650</u>

Req. 2

MCCLAREN CORPORATION
Balance Sheet
At June 30, 20C

Assets:	
Cash (given)	\$13,150
Receivables from customers (given)	9,500
Inventory of merchandise (given)	57,000
Equipment (given)	<u>36,000</u>
Total Assets	<u>\$115,650</u>
Liabilities:	
Accounts payable (given)	\$31,500
Salary payable (given)	<u>1,500</u>
Total Liabilities	\$ 33,000
Stockholders' equity:	
Contributed capital (given)	\$62,000
Retained earnings*	<u>20,650</u>
Total stockholders' equity	<u>82,650</u>
Total liabilities and stockholders' equity	<u>\$115,650</u>

* Beginning RE (\$0) + Net income (\$20,650) – Dividends (\$0) = Ending RE (\$20,650).

AP1-2.

Req. 1

ABEL ELECTRIC REPAIR COMPANY, INC.
Income Statement
For the Three Months Ended December 31, 20A

Revenues from services:			
Electric repair services—cash	\$32,000		
—credit	<u>3,000</u>		
Total revenues		\$35,000	
Expenses:			
Electrician's assistant (wages)	8,500		
Payroll taxes	175		
Supplies used on jobs	9,500		
Oil, gas, and maintenance on truck	1,200		
Insurance	700		
Rent (\$500+\$200)	700		
Utilities and telephone	825		
Miscellaneous expenses	600		
Depreciation of truck and tools (use)	<u>1,200</u>		
Total expenses		<u>23,400</u>	
Pretax income		11,600	
Income taxes (\$11,600 x 30%)		<u>3,480</u>	
Net income		<u>\$ 8,120</u>	

Req. 2

Because the above report reflects only revenues, expenses, and net income, it is reasonable to suppose that John would have need for the following:

- (1) A statement that reports for the business, at the end of 20A, each asset (name and amount such as Cash, \$XX), and each liability (such as Income taxes payable, \$XX), and stockholders' equity; that is, a balance sheet.
- (2) A statement of the sources and uses of cash during the period; that is, a statement of cash flows.

\$133,363,000 = \$28,069,000 + \$105,294,000

CASES AND PROJECTS

FINANCIAL REPORTING AND ANALYSIS CASES

CP1-1.

1. Net income was \$54,118 thousand or \$54,118,000. This is disclosed on the income statement. The instructor should note that the reported numbers are in thousands. Some students will erroneously report income as \$54,118. Students should also be warned that different companies often use different terminology—some companies may use the term "net earnings" to describe net income.
2. Net sales were \$587,600,000. This is also disclosed on the income statement.
3. Inventory is \$49,688,000. This is disclosed on the balance sheet.
4. Cash and cash equivalents increased by \$23,581,000 during the year. This amount can be computed from the balance sheet or it can be found on the statement of cash flows.
5. The auditor is Ernst & Young. This is found on the auditor's report (in this case, called the "report of independent auditors").

CP1-2.

1. It sells a variety of general consumer products, especially clothing.
2. Yes. It reported increased sales, record earnings, and increasing growth rates.
3. The company's fiscal year ends on January 31.
4. a. Balance Sheets—2 years
b. Income Statements—3 years
c. Cash Flow Statements—3 years
5. Yes, it is audited by independent CPAs, as indicated by the "Report of Independent Auditors" on page 34.
6. Its total assets increased from \$107,424,000 to \$133,363,000.
7. The ending balance in inventories was \$21,881,000.
8. Assets = Liabilities + Stockholders' Equity

CP1-3.

		Urban Outfitters	American Eagle Outfitters
Price/Earnings =	Market Price per Share	\$18 = 20.22	\$34.19 = 28.49
Ratio	Net Income per Share	\$0.89	\$1.20

American Eagle Outfitters has the highest price/earnings ratio.

2. A higher price/earnings ratio indicates that investors expect American Eagle Outfitters to experience faster earnings growth in the future.

	Industry Average	Urban Outfitters	American Eagle Outfitters
Price/Earnings Ratio =	26.13	20.22	28.49

American Eagle Outfitters price/earnings ratio is above the industry average and Urban Outfitters price/earnings ratio is below the industry average.

American Eagle is perceived to have better growth opportunities than the average firm in the industry. Urban Outfitters future is more clouded by problems in its wholesale division.

CP1-4.

Req. 1—Deficiencies:

- (1) Heading: titles of the reports are missing and dates are not in proper form.
- (2) Income statement should show revenues and expenses separately.
- (3) "Profit earned in 20A" should be "Net income."
- (4) Balance sheet should separately report assets, liabilities, and stockholders' equity.
- (5) Retained earnings, \$30,000, should be reported under stockholders' equity.
- (6) Due from customers, \$13,000, should be reported under assets.
- (7) Supplies on hand, \$15,000, should be reported under assets.
- (8) Accumulated depreciation, \$10,000, should be subtracted from service vehicles.

CP1-4. (continued)

Req. 2—Financial Statements:

PERFORMANCE CORPORATION
Income Statement
For the Year Ended December 31, 20A

Revenues:		
Sales	\$175,000	
Services	<u>52,000</u>	
Total revenues		\$227,000
Expenses:		
Cost of goods sold	\$ 90,000	
Selling expenses	25,000	
Depreciation expense	10,000	
Salaries and wages	<u>62,000</u>	
Total expenses (excluding income tax)		<u>187,000</u>
Pretax income		\$40,000
Income tax expense (25% x \$40,000)		<u>10,000</u>
Net income		<u>\$30,000</u>

PERFORMANCE CORPORATION
Balance Sheet
At December 31, 20A

Assets:		
Cash		\$ 32,000
Merchandise inventory (for resale)	42,000	
Supplies inventory (for use in rendering services)		15,000
Accounts receivable (from customers)		13,000
Service vehicles	50,000	
Less accumulated depreciation	<u>(10,000)</u>	
Total assets		<u>\$142,000</u>
Liabilities:		
Accounts payable (to suppliers)		\$22,000
Note payable (to bank)		<u>25,000</u>
Total liabilities		47,000
Stockholders' equity:		
Contributed capital, 6,500 shares	\$65,000	
Retained earnings	<u>30,000</u>	
Total stockholders' equity		<u>95,000</u>
Total liabilities and stockholders' equity		<u>\$142,000</u>

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Financial Accounting, 2/e 1-25

CP1-5.

Req. 1

Case	Cash Received for Assets	Balances Immediately After Sale		
		Assets	Liabilities	Stockholders' Equity
A	\$90,000	\$90,000	\$50,000	\$40,000
B	80,000	80,000	50,000	30,000
C	100,000	100,000	50,000	50,000

Req. 2

Case	To Creditors	To Stockholders	Total
A	\$50,000	\$40,000	\$90,000
B	50,000	30,000	80,000
C	50,000	50,000	100,000

Explanation: Legally, creditors' claims have a priority over stockholders' claims. Therefore, cash necessary to satisfy all creditors' claims would be disbursed first. Any remaining cash would be distributed to the owners in proportion to their ownership interests.

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CRITICAL THINKING CASES**CP1-6.**

Req. 1 The personal items owned by Watkins should not be included in the financial statements of the company. The company is a separate entity for accounting purposes.

The list of liabilities was correct because it excluded the personal debts of Watkins.

Req. 2 The comment by Watkins poses an important accounting issue; that is, the separate entity assumption indicated in Req. 1. Also, deception is involved because of the listing of personal assets (coupled with an exclusion of the related liabilities). Such reporting would be misleading and dishonest.

The financial statements (lists) are not correct even if it were clearly stated that the accounting entity represents the company and owner combined as one entity. If this assumption were used, which would be appropriate only if clearly specified, it would require that *all* of the assets and *all* of the liabilities of both the company and Watkins be included. Preferably the business should be reported as a separate entity. The personal assets and liabilities should be reported as another separate entity.

CP1-7.

Req. 1 You should forcefully assert the need for an independent audit of the financial statements each year because this is the best way to assure credibility—conformance with GAAP, completeness and absence of bias.

You should firmly reject "Uncle Ray" as the auditor because there is no evidence about his competence as an accountant or auditor. Also, he is related to the partner who prepares the financial statements; there is a conflict of interest.

Req. 2 You should strongly recommend the selection of an independent CPA in public practice because the financial statements should be audited by a competent and independent professional who must follow prescribed accounting and auditing standards on a strictly independent basis. An audit by "Uncle Ray" would not meet any of these requisites, particularly the important one in this case—*independence* (and absence of bias).

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Financial Accounting, 2/e 1-27

CP1-8.

The textbook does not explicitly cover the elements of independence. The case is designed to permit the students to develop their own values. We have found that it is useful to emphasize the difference between independence in fact and in appearance during these discussions.

- Most students feel that there is no problem with independence if the stock held is immaterial in amount. When asked about a possible headline that might read "Auditor who was shareholder is accused of fraud," most students see a problem with the appearance. In fact, the AICPA does not apply a materiality threshold where there is a direct financial interest. Any holding of stock is a problem.
- This is an example of an indirect holding of stock. A materiality threshold is applied in these situations. There could be a question of independence if the auditor held a material interest in the mutual fund (relative to her net worth) and the mutual fund held a material interest in the company that she audited.
- The AICPA Code of Professional Conduct applies only to audit professionals who are members (though many state laws incorporate similar rules). Bob's employers may want to assign him to a different company but there is no conflict with the Code.
- Clearly there is an ethics violation in this case because she would audit statements that covered a period of time where she was responsible for the accounting operations of the company. This is a problem both in appearance and in fact.
- The original Code indicated that a loan from a bank that was made under normal lending procedures, terms, and requirements was not an impairment of independence. This issue is currently under a review that will probably result in a modification of the rule. It is an excellent example of how ethics rules can change over time. The savings and loan debacle with the resulting lawsuits has caused the profession to reconsider the appearance of loans to auditors.

FINANCIAL REPORTING AND ANALYSIS PROJECTS**CP1-9 through CP1-14.**

The solutions to these cases will depend on the company and/or accounting period selected for analysis.

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Chapter 2 Investing and Financing Decisions and The Balance Sheet

ANSWERS TO QUESTIONS

- The primary objective of financial reporting for external users is to provide useful economic information about a business to help external parties, primarily investors and creditors, make sound financial decisions. These users are expected to have a reasonable understanding of accounting concepts and procedures. Usually, they are interested in information to assist them in projecting future cash inflows and outflows of a business.
- An asset is a probable future economic benefit owned by the entity as a result of past transactions.
 - A current asset is an asset that will be used or turned into cash within one year; inventory is always considered a current asset regardless of how long it takes to produce and sell the inventory.
 - A liability is a probable debt or obligation of the entity as a result of a past transaction, which will be paid with assets or services.
 - A current liability is a liability that will be paid in cash (or other current assets) or satisfied by providing service within the coming year.
 - Contributed capital is cash (and sometimes other assets) provided to the business by owners.
 - Retained earnings are the cumulative earnings of a company that are not distributed to the owners and are reinvested in the business.

- The separate-entity assumption requires that business transactions are separate from the transactions of the owners. For example, the purchase of a truck by the owner for personal use is not recorded as an asset of the business.
 - The unit-of-measure assumption requires information to be reported in the national monetary unit. That means that each business will account for and report its financial results primarily in terms of the national monetary unit, such as Deutsch marks in Germany and Australian dollars in Australia.
 - Under the continuity or going-concern assumption, businesses are assumed to operate into the foreseeable future. That is, they are not expected to liquidate.
 - The historical cost principle requires assets to be recorded at the cash-equivalent cost on the date of the transaction. Cash-equivalent cost is the cash paid plus the dollar value of all noncash considerations.
- Accounting assumptions are necessary because they reflect the scope of accounting and the expectations that set certain limits on the way accounting information is reported.
- The financial leverage ratio is computed as average total assets divided by average stockholders' equity (where "average" is the average of the beginning and ending balances for the year). It measures the relation between total assets and the stockholders' capital that finances it. The higher the ratio, the more debt has been assumed by the company to finance its assets.
- An account is a standardized format used by organizations to accumulate the dollar effects of transactions on each financial statement item. Accounts are necessary to keep track of all increases and decreases in the fundamental accounting model.
- The fundamental accounting model is provided by the equation:
$$\text{Assets} = \text{Liabilities} + \text{Stockholders' Equity}$$
- A business transaction is (a) an exchange of resources (assets) and obligations (debts) between a business and one or more outside parties, and (b) certain events that directly affect the entity such as a storm loss and the wearing out of equipment used to operate the business. An example of the first situation is (a) the sale of goods or services. An example of the second situation is (b) a loss incurred due to a fire.

- Debit is the left side of a T-account and credit is the right side of a T-account. A debit is an increase in assets and a decrease in liabilities and stockholders' equity. A credit is the opposite – a decrease in assets and an increase in liabilities and stockholders' equity.
- Transaction analysis is the process of studying a transaction to determine its economic effect on the entity in terms of the accounting equation:
$$\text{Assets} = \text{Liabilities} + \text{Stockholders' Equity}$$

The two principles underlying the process are:
 - every transaction affects at least two accounts.
 - the accounting equation must remain in balance after each transaction.
 The two steps in transaction analysis are:
 - identify and classify accounts and effects.
 - determine that the accounting equation ($A = L + SE$) remains in balance.
- The equalities in accounting are:
 - $\text{Assets} = \text{Liabilities} + \text{Stockholders' Equity}$
 - $\text{Debits} = \text{Credits}$
- The journal entry is a method for expressing the effects of a transaction on accounts in a debits equal credits format. The title of the account(s) to be debited is (are) listed first and the title of the account(s) to be credited is (are) listed underneath the debited accounts and both account title and amount is (are) indented to the right.
- The T-account is a tool for summarizing transaction effects for each account, determining balances, and drawing inferences about a company's activities. It is a simplified representation of a ledger account with a debit column on the left and a credit column on the right.
- Investing activities on the statement of cash flows include the buying and selling of productive assets and investments. Financing activities include borrowing and repaying debt, issuing and repurchasing stock, and paying dividends.
- Bookkeeping is only one part of accounting. A bookkeeper records the routine transactions in most businesses and may maintain the simple records of a small business. An accountant is a highly trained professional, competent in the design of information systems, analysis of complex transactions, interpretation of financial data, financial reporting, auditing, taxation, and management consulting.

Authors' Recommended Solution Time (Time in minutes)

Mini-exercises		Exercises		Problems		Alternate Problems		Cases and Projects	
No.	Time	No.	Time	No.	Time	No.	Time	No.	Time
1	3	1	8	1	20	1	20	1	15
2	3	2	15	2	25	2	25	2	15
3	4	3	8	3	40	3	40	3	20
4	4	4	10	4	20	4	20	4	20
5	5	5	10	5	40	5	40	5	15
6	3	6	10	6	20	6	20	6	20
7	3	7	10					7	25
8	6	8	15					8	30
9	6	9	20					9	20
10	6	10	20					10	*
11	4	11	15					11	*
12	4	12	20					12	*
		13	20					13	*
		14	20					14	*
		15	20						
		16	15						
		17	10						
		18	10						
		19	15						
		20	10						

* Due to the nature of these cases and projects, it is very difficult to estimate the amount of time students will need to complete the assignment. As with any open-ended project, it is possible for students to devote a large amount of time to these assignments. While students often benefit from the extra effort, we find that some become frustrated by the perceived difficulty of the task. You can reduce student frustration and anxiety by making your expectations clear. For example, when our goal is to sharpen research skills, we devote class time discussing research strategies. When we want the students to focus on a real accounting issue, we offer suggestions about possible companies or industries.

MINI-EXERCISES

M2-1. (1) C; (2) H; (3) G; (4) A; (5) I.

M2-2. (1) D; (2) C; (3) A; (4) I; (5) B.

M2-3. (1) Y; (2) N; (3) Y; (4) N; (5) N; (6) Y.

M2-4. (1) CL; (2) CA; (3) NCA; (4) CA; (5) SE; (6) NCA; (7) CA; (8) CL; (9) NCA; (10) NCL; (11) CA; (12) CA; (13) SE; (14) CA; (15) CL; (16) CL.

M2-5.

	Assets		=	Liabilities		+	Stockholders' Equity	
a.	Cash	+1,000		Notes payable	+1,000			
b.	Cash	+3,000					Contributed capital	+3,000
c.	Cash	-100		Note payable	+400			
	Equipment	+500						
d.	Cash	-100					Retained earnings	-100
e.	Cash	-200		Note payable	-200			

M2-6.

	Debit		Credit	
Assets	Increases		Decreases	
Liabilities	Decreases		Increases	
Stockholders' equity	Decreases		Increases	

M2-7.

	Increase		Decrease	
Assets	Debit		Credit	
Liabilities	Credit		Debit	
Stockholders' equity	Credit		Debit	

M2-8.

a.	Cash (+A).....	1,000	
	Notes payable (+L).....		1,000
b.	Cash (+A).....	3,000	
	Contributed capital (+SE).....		3,000
c.	Equipment (+A).....	500	
	Cash (-A).....		100
	Notes payable (+L).....		400
d.	Retained earnings (-SE).....	100	
	Cash (-A).....		100
e.	Note payable (-L).....	200	
	Cash (-A).....		200

M2-9.

Cash		Equipment		Notes Payable	
Beg.	2,000	Beg.	16,300		3,000 Beg.
(a)	1,000	(c)	500	(e)	1,000 (a)
(b)	3,000				400 (c)
	<u>5,600</u>		<u>16,800</u>		<u>4,200</u>
		Contributed Capital		Retained Earnings	
		5,500 Beg.		(d) 100	
		3,000 (b)		9,800 Beg.	
		<u>8,500</u>		<u>9,700</u>	

M2-10.

Nardozzi Inc. Balance Sheet at January 31, 20B			
Assets		Liabilities	
Cash	\$ 5,600	Notes payable	\$ 4,200
Equipment	<u>16,800</u>	Stockholders' Equity	
		Contributed capital	8,500
		Retained earnings	9,700
		Total Stockholders' Equity	<u>18,200</u>
Total Assets	<u>\$22,400</u>	Total Liabilities & Stockholders' Equity	<u>\$22,400</u>

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M2-11.

$$\text{Financial Leverage} = \frac{\text{Average Total Assets}}{\text{Average Stockholders' Equity}} = \frac{(\$245,600 + \$278,100) / 2}{(\$155,300 + \$167,900) / 2} = \frac{\$261,850}{\$161,600} = 1.62$$

This ratio indicates that, for every \$1 of equity investment, Fullem maintains \$1.62 of assets. Fullem's ratio is higher than Papa John's 1998 ratio (of 1.20), indicating that Fullem maintains a higher debt level and follows a riskier financing strategy than does Papa John's.

M2-12. (a) F; (b) F; (c) I; (d) F; (e) F.

EXERCISES

E2-1. (1) E; (2) F; (3) B; (4) O; (5) J;
(6) A; (7) L; (8) N; (9) M; (10) D.

E2-2.

Req. 1

	<u>Given</u>	<u>Received</u>	
(a)	Note payable	Computer equipment	
(b)	Cash	Delivery truck	
(c)	—	—	No exchange transaction
(d)	Contributed capital	Cash	
(e)	Cash	Construction in progress	Or Building
(f)	Cash	Copyright	
(g)	Cash	Retained earnings	Reduced future promise to pay
(h)	Cash	Investments	
(i)	Cash	Land	
(j)	Cash and Note payable	Patents	
(k)	—	—	No exchange transaction
(l)	Note payable	Cash	
(m)	Cash	Note payable	Reduced promise to pay

Req. 2

The truck is (b) would be recorded as an asset of \$21,000. The land in (i) would be recorded as an asset of \$50,000. These are applications of the cost principle.

Req. 3

The agreement in (c) involves no exchange or receipt of cash, goods, or services and thus is not a transaction. Since transaction (k) occurs between the owners and others, there is no effect on the business because of the separate-entity assumption.

E2-3.

<u>Account</u>	<u>Balance Sheet Categorization</u>	<u>Debit or Credit Balance</u>
1.	NCA	Debit
2.	SE	Credit
3.	NCL	Credit
4.	CA	Debit
5.	NCA	Debit
6.	SE	Credit
7.	NCA	Debit
8.	CL	Credit
9.	CA	Debit
10.	CL	Credit

E2-4.

	<u>Assets</u>	=	<u>Liabilities</u>	+	<u>Stockholders' Equity</u>
a.	Cash +20,000				Contributed capital +20,000
b.	Cash +6,000		Note payable +6,000		
c.	Land +12,000		Mortgage note payable +11,000		
	Cash -1,000				
d.	Note receivable +300				
	Cash -300				
e.	Cash -6,000		Note payable -6,000		
f.	Equipment +8,000		Notes payable +7,000		
	Cash -1,000				

E2-5

Req. 1

	<u>Assets</u>	=	<u>Liabilities</u>	+	<u>Stockholders' Equity</u>
a.	Property, plant & equipment +216.3		Note payable +5.0		
	Cash -211.3				
b.	Cash +21.1				Contributed capital +21.1
c.	Cash -78.8		Dividends payable +21.2		Retained earnings -100.0
d.	No effects				
e.	Cash -3.2		Note payable -3.2		
f.	Cash +1.4				
	Investments -1.4				

Req. 2

The separate-entity assumption states that transactions of the business are separate from transactions of the owners. Since transaction (d) occurs between the owners and others in the stock market, there is no effect on the business.

E2-6.

a.	Cash (+A).....	20,000	
	Contributed capital (+SE).....		20,000
b.	Cash (+A).....	6,000	
	Note payable (+L).....		6,000
c.	Land (+A).....	12,000	
	Cash (-A).....		1,000
	Mortgage note payable (+L).....		11,000
d.	Note receivable (+A).....	300	
	Cash (-A).....		300
e.	Note payable (-L).....	6,000	
	Cash (-A).....		6,000
f.	Equipment (+A).....	8,000	
	Cash (-A).....		1,000

Note payable (+L) 7,000

E2-15 (continued)

Req. 2

**Lee Delivery Company
Balance Sheet
at End of 20C**

Assets		Liabilities	
<i>Current Assets</i>		<i>Current Liabilities</i>	
Cash	\$20,000	Short-term notes payable	\$12,000
Short-term note receivable	2,000	Total Current Liabilities	12,000
Total Current Assets	22,000	Long-term notes payable	12,000
<i>Non-current Assets</i>		Total Liabilities	
Land	9,000		24,000
Equipment	28,000	Stockholders' Equity	
		Contributed capital	35,000
		Total Stockholders' Equity	35,000
		Total Liabilities & Stockholders' Equity	
Total Assets	\$59,000		\$59,000

Req. 3

20D:
 Financial Leverage = $\frac{\text{Average Total Assets}}{\text{Average Stockholders' Equity}} = \frac{(\$59,000 + \$90,000) / 2}{(\$35,000 + \$50,000) / 2} = \frac{\$74,500}{\$42,500} = 1.75$

20E:
 Financial Leverage = $\frac{\text{Average Total Assets}}{\text{Average Stockholders' Equity}} = \frac{(\$90,000 + \$120,000) / 2}{(\$50,000 + \$50,000) / 2} = \frac{\$105,000}{\$50,000} = 2.10$

The financial leverage ratio has increased over the years. This suggests that the company has been taking on additional risk through debt financing.

Req. 4

Lee Delivery Services has already been financing their development through debt (as evidenced by the increasing leverage ratio). This suggests the company is taking on increasing risk. The bank's vice president should not extend the loan to the company as it currently stands.

E2-16.

Transaction	Brief Explanation
(a)	Issued capital stock to shareholders for \$17,000 cash and \$3,000 tools and equipment.
(b)	Purchased a building for \$50,000; paid \$10,000 cash and gave a \$40,000 note payable for the balance.
(c)	Loaned \$1,500 cash; borrower signed a note receivable for this amount.
(d)	Collected \$500 from the note receivable in (c).
(e)	Paid \$1,000 on note payable in (b).
(f)	Sold \$800 of tools and equipment for their original cost.

E2-17.

Req. 1

	Increases with...	Decreases with...
Equipment	Purchases of equipment	Sales of equipment
Note receivable	Additional loans	Collection of loans
Notes payable	Additional borrowings	Payments of debt

Req. 2

	Equipment	Note Receivable	Notes Payable				
1/1	300	75	130	1/1			
	250	265	120	170			
	100	290					
12/31	450	50	180	12/31			
	Beginning balance	+	"+" -	"-" =	Ending balance		
Equipment	\$300	+	250	-	?	=	\$450
					?	=	100
Note receivable	75	+	?	-	290	=	50
					?	=	265
Note payable	130	+	170	-	?	=	180
					?	=	120

E2-18.

Activity	Type of Activity	Effect on Cash
(a) Reduction of long-term debt	F	-
(b) Purchase of investments	I	-
(c) Issuance of common stock	F	+
(d) Capital expenditures	I	-
(e) Issuance of long-term debt	F	+
(f) Proceeds from sales of assets and investments	I	+
(g) Dividends paid	F	-

E2-19.

**Hilton Hotels Corporation
Partial Statement of Cash Flows
For the year ended December 31, 20C**

Investing Activities

Purchase of investments	\$(282.2)
Purchase and renovation of properties	(274.5)
Sale of property	5.4
Receipt of payment from note receivable	5.4
Cash flow from investing activities	\$(545.9)

Financing Activities

Additional borrowing from banks	\$438.5
Payment of debt	(32.2)
Issuance of stock	2.9
Cash flow from financing activities	\$409.2

E2-20.

- Current assets In the asset section of a classified balance sheet.
- Debt principal repaid In the financing activities section of the statement of cash flows.
- Significant accounting policies Usually the first note after the financial statements.
- Cash received on sale of noncurrent assets In the investing activities section of the statement of cash flows.
- Dividends paid In the financing activities section of the statement of cash flows.
- Short-term obligations In the current liabilities section of a classified balance sheet.
- Date of the statement of In the heading of the balance sheet.

financial position.

PROBLEMS

P2-1.

<u>Account</u>	<u>Balance Sheet Categorization</u>	<u>Debit or Credit Balance</u>
(1)	CA	Debit
(2)	CA	Debit
(3)	SE	Credit
(4)	NCL	Credit
(5)	CA	Debit
(6)	NCA	Debit
(7)	CL	Credit
(8)	CA	Debit
(9)	CL	Credit
(10)	CA	Debit
(11)	NCL	Credit
(12)	SE	Credit
(13)	CA	Debit
(14)	NCA	Debit
(15)	NCA	Debit

P2-2.

Req. 1

Lester's Home Healthcare Services was organized as a corporation. Only a corporation issues shares of capital stock to its owners in exchange for their investment, as Lester's did in transaction (a).

Req. 2 (On next page)

Req. 3

The transaction between the two stockholders (Transaction c) was not included in the tabulation. Since the transaction in (c) occurs between the owners, there is no effect on the business due to the separate-entity assumption.

Req. 4

(a) Total assets = \$23,000 + \$3,000 + \$5,000 + \$8,000 + \$65,000 + \$16,000 = \$120,000

(b) Total liabilities = \$80,000

(c) Total stockholders' equity = Total assets - Total liabilities = \$120,000 - \$80,000 = \$40,000

(d) Cash balance = \$40,000 - \$13,000 - \$3,000 + \$4,000 - \$5,000 = \$23,000

(e) Total current assets = \$23,000 + \$3,000 + \$5,000 = \$31,000

P2-2 (continued)

Req. 2

	<u>Assets</u>					=	<u>Liabilities</u>	+	<u>Stockholders' Equity</u>	
	<u>Cash</u>	<u>Short-term Investments</u>	<u>Notes Receivable</u>	<u>Land</u>	<u>Building</u>				<u>Equipment</u>	<u>Notes Payable</u>
(a)	+40,000									+40,000
(b)	-13,000			+12,000	+65,000	+16,000	=	+80,000		
(c)	No effect						=			
(d)	-3,000	+3,000					=			
(e)	+4,000			-4,000			=			
(f)	-5,000		+5,000				=			
	<u>+23,000</u>	<u>+3,000</u>	<u>+5,000</u>	<u>+8,000</u>	<u>+65,000</u>	<u>+16,000</u>	=	<u>+80,000</u>		<u>+40,000</u>

P2-3.

Req. 1 and 2

<u>Cash</u>	<u>Short-Term Investments</u>	<u>Accounts Receivable</u>
Beg. 35,000	Beg. 3,000	Beg. 5,000
(b) 20,000	(d) 15,000	
(f) 20,000	10,000 (a)	
(j) 2,000	12,000 (c)	
	15,000 (d)	
	5,000 (e)	
	6,000 (g)	
	15,000 (h)	
End. <u>14,000</u>	End. <u>18,000</u>	End. <u>5,000</u>
<u>Equipment</u>	<u>Inventory</u>	<u>Long-Term Note Receivable</u>
Beg. 80,000	Beg. 40,000	Beg. 2,000
(a) 30,000		(c) 12,000
End. <u>108,000</u>	End. <u>40,000</u>	End. <u>14,000</u>
<u>Accounts payable</u>	<u>Factory Building</u>	<u>Intangibles</u>
25,000 Beg.	Beg. 150,000	Beg. 5,000
	(h) 42,000	(g) 6,000
<u>25,000</u> End.	End. <u>192,000</u>	End. <u>11,000</u>
<u>Long-Term Note Payable</u>	<u>Accrued Liabilities Payable</u>	<u>Short-Term Note Payable</u>
80,000 Beg.	3,000 Beg.	12,000 Beg.
27,000 (h)	(e) 5,000	20,000 (a)
		20,000 (f)
<u>107,000</u> End.	<u>3,000</u> End.	<u>47,000</u> End.
<u>Contributed Capital</u>	<u>Retained Earnings</u>	
150,000 Beg.	50,000 Beg.	
20,000 (b)		
<u>170,000</u> End.	<u>50,000</u> End.	

P2-3. (continued)

Req. 3

No effect was recorded for (j). The agreement in (i) involves no exchange or receipt of cash, goods, or services and thus is not a transaction.

Req. 4

Patrie Plastics Company Balance Sheet at December 31, 20D			
Assets		Liabilities	
Current Assets		Current Liabilities	
Cash	\$14,000	Accounts payable	\$ 25,000
Short-term investments	18,000	Accrued liabilities payable	3,000
Accounts receivable	5,000	Short-term note payable	<u>47,000</u>
Inventory	<u>40,000</u>	Total Current Liabilities	75,000
Total Current Assets	77,000	Long-term note payable	<u>107,000</u>
Non-current Assets		Total Liabilities	
Long-term note receivable	14,000		<u>182,000</u>
Equipment	108,000	Stockholders' Equity	
Factory building	192,000	Contributed capital	170,000
Intangibles	<u>11,000</u>	Retained earnings	<u>50,000</u>
		Total Stockholders' Equity	220,000
Total Assets	\$402,000	Total Liabilities & Stockholders' Equity	
			\$402,000

Req. 5

Financial = $\frac{\text{Average Total Assets}}{\text{Average Stockholders' Equity}} = \frac{(\$320,000 + \$402,000) / 2}{(\$200,000 + \$220,000) / 2} = \frac{\$361,000}{\$210,000} = 1.72$

This ratio indicates that, for every \$1 of equity investment, Patrie Plastics maintains \$1.72 of assets, with the additional \$0.72 of assets financed by debt.

P2-4

Transaction	Type of Activity	Effect on Cash
(a)	I	-
(b)	F	+
(c)	I	-
(d)	I	-
(e)	F	-
(f)	F	+
(g)	I	-
(h)	I	-
(i)		NE
(j)	I	+

P2-5.

Req. 1

a.	Dividends due (-L).....	134.1	
	Cash (-A).....		134.1
b.	Intangibles (+A).....	59.7	
	Cash (-A).....		59.7
c.	Cash (+A).....	1,203.1	
	Share capital (+SE).....		1,203.1
d.	Borrowings (-L).....	150.0	
	Cash (-A).....		150.0
e.	Property, plant, and equipment (+A).....	640.5	
	Cash (-A).....		161.1
	Borrowings (+L).....		479.4
f.	Investments (+A).....	48.3	
	Cash (-A).....		48.3

P2-5. (continued)

Req. 2

Cash	Receivables	Inventories
Beg. 106.6	Beg. 1,129.8	Beg. 227.1
(c) 1,203.1		
134.1 (a)		
59.7 (b)		
150.0 (d)		
161.1 (e)		
48.3 (f)		
<u>756.5</u>	<u>1,129.8</u>	<u>227.1</u>
	Investments	Property, Plant & Equip.
	Beg. 1,198.2	Beg. 2,030.3
	(f) 48.3	(e) 640.5
	<u>1,246.5</u>	<u>2,670.8</u>
Intangibles	Other assets	Creditors
Beg. 717.8	Beg. 893.9	928.9 Beg.
(b) 59.7		
<u>777.5</u>	<u>893.9</u>	<u>928.9</u>
Borrowings	Other liabilities	Share Capital
1,958.9 Beg.	596.6 Beg.	3,267.4 Beg.
(d) 150.0	(a) 134.1	1,203.1 (c)
479.4 (e)		
<u>2,288.3</u>	<u>462.5</u>	<u>4,470.5</u>
Reserves	Accumulated Losses	Other
882.6 Beg.	Beg. 1,362.8	32.1 Beg.
<u>882.6</u>	<u>1,362.8</u>	<u>32.1</u>

P2-5. (continued)

Req. 3

**Foster's Brewing Group Limited and Controlled Entities
Balance Sheet at 31 July 19A
(in millions of Australian dollars)**

ASSETS	
Cash	\$ 756.5
Receivables	1,129.8
Inventories	227.1
Investments	1,246.5
Property, plant, and equipment	2,670.8
Intangibles	777.5
Other assets	893.9
Total assets	7,702.1
LIABILITIES	
Creditors	928.9
Borrowings	2,288.3
Other liabilities	462.5
Total liabilities	3,679.7
Net assets	\$4,022.4
SHAREHOLDERS' EQUITY	
Share capital	\$4,470.5
Reserves	882.6
Accumulated losses	(1,362.8)
Other	32.1
Total Shareholders' equity	\$4,022.4

Req. 4

Accumulated losses are the cumulative earnings of the firm since the business began (less any dividends paid to the shareholders). The account is usually called "Retained earnings." In this case, the cumulative sum is negative, so "Accumulated losses" is a more descriptive term.

P2-5. (continued)

Req. 5

$$\text{Financial Leverage} = \frac{\text{Average Total Assets}}{\text{Average Stockholders' Equity}} = \frac{(\$6,303.7 + \$7,702.1) / 2}{(\$2,819.3 + \$4,022.4) / 2} = \frac{\$7,002.9}{\$3,420.9} = 2.05$$

Thus, for every \$1 of equity investment, Foster's maintains \$2.05 of assets. This ratio indicates that Foster's utilizes debt financing slightly more than equity financing.

P2-6.

Foster's Brewing Group Limited and Controlled Entities
Partial Statement of Cash Flows
For the month ended 31 July 19A
(in millions of Australian dollars)

INVESTING ACTIVITIES	
Purchase of investments	\$ (48.3)
Purchase of property, plant, and equipment	(161.1)
Purchase of intangibles	(59.7)
Cash flow used in investing activities	\$(269.1)
FINANCING ACTIVITIES	
Repayment of borrowings	\$(150.0)
Payment of dividends	(134.1)
Issuance of stock	1,203.1
Cash flow from financing activities	\$ 919.0

ALTERNATE PROBLEMS

AP2-1.

Account	Balance Sheet Categorization	Debit or Credit Balance
(1)	CA	Debit
(2)	CL	Credit
(3)	SE	Credit
(4)	NCL	Credit
(5)	CA	Debit
(6)	NCA	Debit
(7)	NCA	Debit
(8)	SE	Credit
(9)	CL	Credit
(10)	CA	Debit
(11)	CL	Credit
(12)	NCL	Credit
(13)	CA	Debit
(14)	CL	Credit

AP2-2

Req. 1

	Assets					= Liabilities		+ Stockholders' Equity	
	Cash	Notes Receivable	Long-Term Investments	Equipment	Building	Short-Term Notes Payable	Long-Term Notes Payable	Contributed Capital	Retained Earnings
(a)	+100,000								+100,000
(b)	+120,000						+120,000		
(c)	-200,000				+200,000				
(d)	-3,000			+30,000		+27,000			
(e)	-85,000		+85,000						
(f)				-3,000		-3,000			
(g)	-12,000						-12,000		
(h)	-5,000			+10,000		+5,000			
(i)	-2,000	+2,000							
(j)	No effect								
(k)	+250	-250							
	-86,750	+1,750	+85,000	+37,000	+200,000	+29,000	+108,000		+100,000
Changes			+ \$237,000				+ \$137,000		+ \$100,000

AP2-2. (continued)

Req. 2

The transaction between the stockholder and his neighbor (Transaction *j*) was not included in the tabulation. Since the transaction in (*j*) occurs between stockholders, there is no effect on the business due to the separate-entity assumption.

Req. 3

- (a) Beginning total assets \$500,000 + Changes \$237,000 = \$737,000 Ending total assets
 - (b) Beginning total liabilities \$200,000 + Changes \$137,000 = \$337,000 Ending total liabilities
 - (c) Ending total assets \$737,000 – Ending total liabilities \$337,000 = Ending stockholder's equity \$400,000
- Also → Beginning total stockholders' equity \$300,000 + Changes \$100,000 = Ending total stockholders' equity \$400,000

Req. 4

$$\text{Financial Leverage} = \frac{\text{Average Total Assets}}{\text{Average Stockholders' Equity}} = \frac{(\$500,000 + \$737,000) / 2}{(\$300,000 + \$400,000) / 2} = \frac{\$618,500}{\$350,000} = 1.77$$

Thus, for every \$1 of equity investment, Malamud maintains \$1.77 of assets. This ratio indicates that Malamud Incorporated utilizes debt financing less than equity financing.

AP2-3.

Req. 1 and 2

Cash and Cash Equivalents		Short-Term Investments		Accounts Receivable	
Beg.	19,380	Beg.	0	Beg.	35,640
(a)	630	(e)	2,980		
(d)	4,020		2,980		35,640
(f)	1,020				
(h)	310				
	300 (i)				
	<u>4,510</u>				
Prepaid Expenses and Other Current Assets		Property, Plant and Equipment		Long-Term Investments and Note Receivable	
Beg.	17,829	Beg.	188,171	Beg.	2,919
		(g)	11,230		630 (a)
			4,020 (d)		
			195,381		2,289
	<u>17,829</u>				
Intangibles		Other Assets		Accounts Payable	
Beg.	50,773	Beg.	3,361		51,135 Beg.
(c)	3,400				
			310 (h)		
	<u>54,173</u>		3,051		51,135
Accrued Expenses Payable		Other Current Liabilities		Long-Term Debt	
	5,863 Beg.		16,614 Beg.		45,191 Beg.
				(b)	12,340
	<u>5,863</u>		16,614		9,400 (g)
					42,251
Contributed Capital		Retained Earnings			
	229,008 Beg.		300 (i)		85,312 Beg.
	1,020 (f)				
	<u>230,028</u>				<u>85,012</u>

AP2-3. (continued)

Req. 3

**Ethan Allen Inc.
Balance Sheet
at September 30, 20C
(in thousands of dollars)**

Assets	
Current assets	
Cash and cash equivalents	\$ 4,510
Short-term investments	2,980
Accounts receivable	35,640
Short-term note receivable	686
Inventories	114,364
Prepaid expenses and other current assets	17,829
Total current assets	<u>176,009</u>
Property, plant and equipment	195,381
Long-term investments and note receivable	2,289
Intangibles	54,173
Other assets	3,051
Total Assets	<u>\$430,903</u>
Liabilities	
Current liabilities	
Accounts payable	\$ 51,135
Accrued expenses payable	5,863
Other current liabilities	16,614
Total current liabilities	<u>73,612</u>
Long-term debt	42,251
Total Liabilities	<u>115,863</u>
Stockholders' Equity	
Contributed capital	230,028
Retained earnings	85,012
Total Stockholders' Equity	<u>315,040</u>
Total Liabilities and Stockholders' Equity	<u>\$430,903</u>

Req. 4

$$\text{Financial Leverage} = \frac{\text{Average Total Assets}}{\text{Average Stockholders' Equity}} = \frac{(\$433,123 + \$430,903) / 2}{(\$314,320 + \$315,040) / 2} = \frac{\$432,013}{\$314,680} = 1.37$$

This ratio indicates that, for every \$1 of equity investment, Ethan Allen maintains \$1.37 of assets, with the additional \$0.37 of assets financed by debt. This suggests that Ethan Allen does not rely heavily on debt financing.

AP2-4

Transaction	Type of Activity	Effect on Cash
(a)	I	+
(b)	F	-
(c)	I	-
(d)	I	+
(e)	I	-
(f)	F	+
(g)	I	-
(h)	I	+
(i)	F	-

AP2-5.

Req. 1

a.	Cash (+A).....	1,200	
	Contributed capital (+SE).....		1,200
b.	Other liabilities (-L).....	3,000	
	Cash (-A).....		3,000
c.	Retained earnings (-SE).....	510	
	Cash (-A).....		510
d.	Intangibles (+A).....	100	
	Cash (-A).....		100
e.	Equipment (+A).....	740	
	Cash (-A).....		160
	Other liabilities (+L).....		580
f.	Long-term investments (+A).....	1,500	
	Marketable securities (+A).....	1,500	
	Cash (-A).....		3,000
g.	Accounts and other receivables (+A).....	250	
	Cash (-A).....		250

h.	Cash (+A).....	2,800	
	Marketable securities (-A).....		2,800

AP2-5. (continued)

Req. 2

<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center; border-bottom: 1px solid black;">Cash and Cash Equivalents</th> </tr> <tr> <td style="width: 50%;">Beg.</td> <td style="text-align: right;">6,589</td> </tr> <tr> <td>(a)</td> <td style="text-align: right;">1,200</td> </tr> <tr> <td>(h)</td> <td style="text-align: right;">2,800</td> </tr> <tr> <td></td> <td style="text-align: right;">3,000 (b)</td> </tr> <tr> <td></td> <td style="text-align: right;">510 (c)</td> </tr> <tr> <td></td> <td style="text-align: right;">100 (d)</td> </tr> <tr> <td></td> <td style="text-align: right;">160 (e)</td> </tr> <tr> <td></td> <td style="text-align: right;">3,000 (f)</td> </tr> <tr> <td></td> <td style="text-align: right;">250 (g)</td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 3px double black;">3,569</td> </tr> </table>	Cash and Cash Equivalents		Beg.	6,589	(a)	1,200	(h)	2,800		3,000 (b)		510 (c)		100 (d)		160 (e)		3,000 (f)		250 (g)		3,569	<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center; border-bottom: 1px solid black;">Marketable Securities</th> </tr> <tr> <td style="width: 50%;">Beg.</td> <td style="text-align: right;">12,160</td> </tr> <tr> <td>(f)</td> <td style="text-align: right;">1,500</td> </tr> <tr> <td>(h)</td> <td style="text-align: right;">2,800</td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 3px double black;">10,860</td> </tr> </table>	Marketable Securities		Beg.	12,160	(f)	1,500	(h)	2,800		10,860	<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center; border-bottom: 1px solid black;">Accounts and Other Receivables</th> </tr> <tr> <td style="width: 50%;">Beg.</td> <td style="text-align: right;">44,848</td> </tr> <tr> <td>(g)</td> <td style="text-align: right;">250</td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 3px double black;">45,098</td> </tr> </table>	Accounts and Other Receivables		Beg.	44,848	(g)	250		45,098
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<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center; border-bottom: 1px solid black;">Other Liabilities</th> </tr> <tr> <td style="width: 50%;">(b)</td> <td style="text-align: right;">3,000</td> </tr> <tr> <td></td> <td style="text-align: right;">58,305 Beg.</td> </tr> <tr> <td></td> <td style="text-align: right;">580 (e)</td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 3px double black;">55,885</td> </tr> </table>	Other Liabilities		(b)	3,000		58,305 Beg.		580 (e)		55,885	<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center; border-bottom: 1px solid black;">Contributed Capital</th> </tr> <tr> <td style="width: 50%;">Beg.</td> <td style="text-align: right;">9,835</td> </tr> <tr> <td>(a)</td> <td style="text-align: right;">1,200</td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 3px double black;">11,035</td> </tr> </table>	Contributed Capital		Beg.	9,835	(a)	1,200		11,035	<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center; border-bottom: 1px solid black;">Retained Earnings</th> </tr> <tr> <td style="width: 50%;">Beg.</td> <td style="text-align: right;">20,532</td> </tr> <tr> <td>(c)</td> <td style="text-align: right;">510</td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 3px double black;">20,022</td> </tr> </table>	Retained Earnings		Beg.	20,532	(c)	510		20,022														
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(c)	510																																									
	20,022																																									

AP2-5. (continued)

Req. 3

**DaimlerChrysler Corporation
Balance Sheet at December 31, 20B
(in millions of Euros)**

ASSETS	
Intangible assets	€ 2,661
Property, plant and equipment	30,272
Long-term investments	4,351
Equipment on operating leases	14,662
Fixed assets	51,946
Inventories	11,796
Accounts and other receivables	45,098
Marketable securities	10,860
Cash and cash equivalents	3,569
Current assets	71,323
Prepaid expenses and other assets	11,150
Total assets	134,419
LIABILITIES AND STOCKHOLDERS' EQUITY	
Contributed capital	11,035
Retained earnings	20,022
Stockholders' equity	31,057
Accrued liabilities	34,629
Accounts payable	12,848
Other liabilities	55,885
Total liabilities	103,362
Total liabilities and stockholders' equity	134,419

Req. 4

$$\text{Financial Leverage} = \frac{\text{Average Total Assets}}{\text{Average Stockholders' Equity}} = \frac{(\text{€}136,149 + \text{€}134,419) / 2}{(\text{€}30,367 + \text{€}31,057) / 2} = \frac{\text{€}135,284}{\text{€}30,712} = 4.40$$

Thus, for every 1 Euro Dollar of equity investment, DaimlerChrysler maintains €4.40 of assets, with the additional €3.40 financed by debt. This ratio indicates that DaimlerChrysler utilizes debt financing nearly 3.4 times more than equity financing.

AP2-6.

**DaimlerChrysler Corporation
Partial Statement of Cash Flows
For the year ended December 31, 20B
(in millions of Euros)**

INVESTING ACTIVITIES	
Purchase of property, plant, and equipment	(160)
Purchase of intangibles	(100)
Purchase of investments	(3,000)
Sale of marketable securities	2,800
Issuance of note receivable to affiliates	(250)
Cash flow used in investing activities	(710)
FINANCING ACTIVITIES	
Repayment of borrowings	(3,000)
Payment of dividends	(510)
Issuance of stock	1,200
Cash flow used in financing activities	(2,310)

CASES AND PROJECTS

FINANCIAL REPORTING AND ANALYSIS CASES

CP2-1.

- The company is a corporation since it maintains share capital and its owners are referred to as "shareholders".
 - $$\text{Assets} = \text{Liabilities} + \text{Stockholders' Equity}$$

$$\$133,363 = \$28,069 + \$105,294$$
 - The amount listed on the balance sheet for inventories does not represent the expected selling price. It represents the historical cost of acquiring the inventory, as required by the cost principle.
 - The company's year-end is January 31. This can be read from the heading of the financial statements. It is also stated in Management's Discussion and Analysis (on p. 15).
 - The company's non-current obligations include capital lease obligations, and accrued rent and other liabilities.
 - $$\text{Financial Leverage} = \frac{\text{Average Total Assets}}{\text{Average Stockholders' Equity}} = \frac{(\$133,363 + \$107,424) / 2}{(\$105,294 + \$90,658) / 2} = \frac{\$120,393.5}{\$97,976.0} = 1.23$$
- Thus, for every \$1 of equity investment, Urban Outfitters maintains \$1.23 of assets, with the additional \$0.23 financed by debt. This ratio indicates that Urban Outfitters does not rely heavily on debt financing.
- The company spent \$21,521,000 on capital expenditures in the year ended 1/31/99; \$6,272,000 in the year ended 1/31/98; and \$11,980,000 in the year ended 1/31/97. This information is listed on the Statement of Cash Flows in the investing activities section.

CP2-2.

- American Eagle Outfitters is larger. It maintains \$210,948,000 of total assets while Urban Outfitters maintains only \$133,363,000 of total assets.

Current year	Urban Outfitters	American Eagle Outfitters
Financial = Avg Total Assets	(\$133,363+\$107,424)/2	(\$210,948+\$144,795)/2
Leverage = Avg Stockholders' Equity	(\$105,294+\$90,658)/2	(\$151,197+\$90,808)/2
	= \$120,393.5 = 1.23	= \$177,872.0 = 1.47
	\$97,976.0	\$121,002.5

American Eagle Outfitters is assuming slightly more risk. For every \$1 of equity investment, American Eagle Outfitters maintains \$1.47 of assets, compared to \$1.23 for Urban Outfitters. This higher ratio indicates that American Eagle Outfitters relies slightly more on debt financing than does Urban Outfitters.

	Industry Average	Urban Outfitters	American Eagle Outfitters
Financial leverage =	2.59	1.23	1.47

Both Urban Outfitters' and American Eagle Outfitters' financial leverage ratios are below the industry average. This means that these companies are financing assets more with equity and less with debt than the average company in their industry.

Renting store space instead of buying store space will cause Urban Outfitters' and American Eagle Outfitters' financial leverage ratio to be lower. Renting is a form of financing that does not show up in the liabilities section of the Balance Sheet. If they purchased store space (without selling additional stock), the numerator (Average Total Assets) would increase, but the denominator (Average Stockholders' Equity) would stay the same.

- During the year, American Eagle Outfitters had a net purchase of short-term investments of \$13,360 thousand. Urban Outfitters had a net purchase of investments of \$6,146 thousand (calculated as \$11,068 + \$3,110 - \$1,900 - \$9,886 + \$3,754).
- Neither company paid any dividends during the year. No such payments are listed on the Statement of Cash Flows or the Note regarding supplemental cash flow information (p. 19 for American Eagle Outfitters, p. 33 for Urban Outfitters).
- American Eagle Outfitters calls the account Fixtures and Equipment. Urban Outfitters calls the account Property and Equipment.

CP2-3.

- Papa John's total assets for the most recent quarter reported are \$347,861,000.
 - Long-term debt decreased from \$8,230,000 at the end of 1998 to \$925 at the end of the most recent quarter.
 - $$\text{Financial Leverage} = \frac{\text{Avg Total Assets}}{\text{Avg Stockholders' Equity}} = \frac{(\$347,861 + \$319,724) / 2}{(\$294,364 + \$254,170) / 2} = \frac{\$333,792.5}{\$274,267.0} = 1.22$$

Papa John's financial leverage has increased slightly from the level of 1.20 as discussed in the chapter. This indicates that, between January 26, 1999 and June 27, 1999, Papa John's financed its assets with relatively more debt than previously.
- For the six months ended June 27, 1999, Papa John's spent \$45,189,000 on the purchase of property and equipment.
 - The total cash flows from financing activities was \$4,052,000.

CP2-4.

- A cyberinvestor is an individual who trades in securities over the internet. The low cost and convenience coupled with access to real-time financial information and reports has caused a dramatic rise in individuals choosing to invest online.
- Cyberinvestors who are not cautious and properly informed are likely to face the risk of losing substantial sums of money due to volatile markets, technical glitches at online brokerage firms, and fraudulent internet investment schemes. The SEC has reported a significant increase in complaints about online investing, including service, order execution, and potential outrageous scams. The SEC cannot eliminate investment risk.
- Simple rules suggested to minimize chances of suffering loss from online trading:
 - Get the facts:** Don't rely solely on what you read on the internet. Check the SEC's EDGAR database to check whether the company is registered with the SEC.
 - Use limit orders:** Specify the highest price you're willing to pay for a stock. Market orders increase your exposure to loss because the order is to buy stock regardless of the price.
 - Open two accounts:** Use accounts at two online brokerage firms in case one broker's electronic system is jammed. Also, make sure at least one has phone access.
 - Look before you click:** Typos are frequent.

CP2-5.

The major deficiency in this balance sheet is the inclusion of the owner's personal residence as a business asset. Under the separate-entity assumption, each business must be accounted for as an individual organization, separate and apart from its owners. The improper inclusion of this asset as part of Betsy Jordan's business overstates total assets by \$300,000; total assets should be \$105,000 rather than \$405,000, and stockholder's equity should be only \$5,000, rather than \$305,000. Thus, the correct financial leverage ratio (based on the year-end balance sheet) is very high: 21.0 (\$105,000 + \$5,000) versus 1.33 (\$405,000 + \$305,000). Betsy Jordan's business is far riskier than suggested by this balance sheet.

CP2-6.

- The company is a corporation since its owners are referred to as "stockholders."
- $$\text{Assets} = \text{Liabilities} + \text{Stockholders' Equity}$$

$$\$2,890,380 = \$1,546,005 + \$1,344,375$$
- $$\text{Financial Leverage} = \frac{\text{Average Total Assets}}{\text{Average Stockholders' Equity}} = \frac{(\$2,890,380 + \$2,039,271) / 2}{(\$1,344,375 + \$930,044) / 2} = \frac{\$2,464,825.5}{\$1,137,209.5} = 2.17$$

For every \$1 of equity investment, Gateway maintains \$2.17 of assets, with the additional \$1.17 financed by debt. This ratio indicates that Gateway relies more heavily on debt financing than on equity financing. The interpretation of this ratio would be more useful given information on the company's financial leverage over time and on the typical financial leverage ratio for the computer industry.

4. Long-term obligations (-L).....	3,360,000	
Cash (-A).....		3,360,000

- Yes, the company was profitable over its years in business. This is based on the balance in the retained earnings account, which represents the cumulative earnings of the firm since the business began (less any dividends paid to the shareholders). Assuming no dividends were paid during the year, net income in 1998 was \$356,803,000, calculated as follows:

Retained earnings		
	620,020	Beginning balance
Dividends	0	Net Income
	356,803	Ending balance
	976,823	

CP2-7.

Req. 1

McDonald's Corporation
Balance Sheets
at December 31
(in millions of dollars)

	20C	20B
Assets		
Cash and cash equivalents	\$ 299.2	\$ 341.4
Accounts and notes receivable	609.4	483.5
Inventories	77.3	70.5
Prepaid expenses and other current assets	323.5	246.9
Total current assets	1,309.4	1,142.3
Property and equipment, net	16,041.6	14,961.4
Intangible assets	973.1	827.5
Investments in and advances to affiliates (long-term)	854.1	634.8
Notes receivable due after one year	67.9	67.0
Other noncurrent assets	538.3	608.5
Total Assets	\$19,784.4	\$18,241.5
Liabilities		
Accounts payable	\$ 621.3	\$ 650.6
Accrued liabilities	783.3	503.5
Taxes payable	237.7	201.0
Notes payable (short-term)	686.8	1,293.8
Current maturities of long-term debt	168.0	335.6
Total current liabilities	2,497.1	2,984.5
Long-term debt	6,188.6	4,834.1
Other long-term liabilities	1,574.5	1,491.0
Total Liabilities	10,260.2	9,309.6
Stockholders' Equity		
Contributed capital	1,065.3	787.8
Retained earnings	8,458.9	8,144.1
Total Stockholders' Equity	9,524.2	8,931.9
Total Liabilities and Stockholders' Equity	\$19,784.4	\$18,241.5

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CP2-7. (continued)

Req. 2

$$\text{Financial Leverage} = \frac{\text{Average Total Assets}}{\text{Average Stockholders' Equity}} = \frac{(\$19,784.4 + \$18,241.5) / 2}{(\$9,524.2 + \$8,931.9) / 2} = \frac{\$19,012.95}{\$9,228.05} = 2.06$$

Req. 3

Thus, for every \$1 of equity investment, McDonald's maintains \$2.06 of assets, with the additional \$1.06 financed by debt. This ratio indicates that McDonald's utilizes debt financing slightly more than equity financing, and that McDonald's utilizes debt financing slightly more than the average company in the restaurant industry (with a ratio of 1.87).

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CRITICAL THINKING CASES

CP2-8.

Req. 1

Dewey, Cheetum and Howe, Inc.
Balance Sheet
December 31, 19C

Assets	
Cash	\$ 1,000
Accounts receivable	8,000
Inventory	8,000
Total current assets	17,000
Furniture and fixtures	52,000
Delivery truck (net)	12,000
Buildings (net)	60,000
Total assets	\$141,000
Liabilities	
Accounts payable	\$ 16,000
Payroll taxes payable	13,000
Total current liabilities	29,000
Notes payable	15,000
Mortgage payable	50,000
Total liabilities	94,000
Stockholders' Equity	
Contributed capital	80,000
Accumulated deficit	(33,000)
Total stockholders' equity	47,000
Total liabilities and stockholders' equity	\$141,000

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Financial Accounting, 3/e

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CP2-8. (continued)

Req. 2

Dear _____,

I corrected the balance sheet for Dewey, Cheetum and Howe, Inc. Primarily, I reduced the amount reported for buildings to \$60,000 which is the historical cost less any depreciation. Estimated market value is not a generally accepted accounting principle for recording property, plant, and equipment. The \$38,000 difference (\$98,000 - \$60,000) reduces total assets and reduces retained earnings. In fact, retained earnings becomes negative suggesting that there may have been several years of operating losses.

The effect of the corrections also changes the financial leverage ratio (based on the year-end figures provided):

Prior to the correction (\$179,000 ÷ \$85,000)	2.11
After the corrections (\$141,000 ÷ \$47,000)	3.00

This suggests that the company has assumed a larger debt burden than indicated on the original balance sheet.

Before making a final decision on investing in this company, you should examine the past three years of *audited* income statements and the past two years of *audited* balance sheets to identify positive and negative trends for this company. You can also compare this company's financial leverage ratio to that of the industry. You should also learn as much about the industry as you can by reviewing recent articles on economic and technological trends which may have an impact on this company.

CP2-9.

- The most obvious parties harmed by the fraud at Leslie Fay were the stockholders and creditors. Stockholders were purchasing shares of stock that were inflated due to the fraud. Creditors were lending funds to the company based on inflated income statement and balance sheet information. When the fraud was discovered, the stock price dropped causing the stockholders to lose money on their investments. In addition, the creditors have a lower probability of receiving full payment on their loans. Those who were helped by the fraud included the salespeople and midlevel and top managers who were able to receive higher commissions and bonuses based on the inflated results of operations.

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CP2-9. (continued)

- Adopting a budget is a good tool for monitoring progress toward goals and identifying problem areas, such as rising costs or sagging sales. Better decision making can result by heading off potential problems before they grow too large. Setting unrealistic budgets, such as excessively high sales targets, can result in those responsible for meeting the targets circumventing appropriate procedures and policies. Often, salespeople and managers' compensation packages are tied to meeting budgets. The higher the sales figures, the more commissions can be made; the higher the net income, the greater the bonus available to managers. The more pressure that is placed by senior management on midlevel managers to meet unrealistic goals, the greater the chance that the managers will operate in their best interests. For example, established credit policies (requirements for selling goods to customers on credit) may be ignored resulting in sales to customers who are less likely to pay.
- In many cases of fraudulent activity, auditors are named in lawsuits along with the company. If the auditors are found to be negligent in performing their audit, then they are liable. However, in many frauds, the management at multiple levels of the organization are so involved in covering the fraud that it becomes nearly impossible for the auditors to detect the fraudulent activity. It appears that BDO Seidman filed charges against Leslie Fay management because the auditors believed that senior management must have known about the fraud given the way the unrealistic budgets were set and expected to be met. The auditors were sending a strong signal to those pointing fingers at the auditors that they believe the blame rests solely with company officials.

FINANCIAL REPORTING AND ANALYSIS PROJECTS

CP2-10 through CP2-14.

The solutions to these cases will depend on the company and/or accounting period selected for analysis.

Chapter 3 Operating Decisions and The Income Statement

ANSWERS TO QUESTIONS

- A typical business operating cycle for a manufacturer would be as follows: inventory is purchased, cash is paid to suppliers, the product is manufactured and sold on credit, and the cash is collected from the customer.
- The time-period assumption means that the financial condition and performance of a business can be reported periodically, usually every month, quarter, or year, even though the life of the business is much longer.
- Net Income = Revenues + Gains - Expenses - Losses.
Each element is defined as follows:
Revenues -- increases in assets or settlements of liabilities from *ongoing operations*.
Gains -- increases in assets or settlements of liabilities from *peripheral transactions*.
Expenses -- decreases in assets or increases in liabilities from *ongoing operations*.
Losses -- decreases in assets or increases in liabilities from *peripheral transactions*.
- Both revenues and gains are inflows of net assets. However, revenues occur in the normal course of operations, whereas gains occur from transactions peripheral to the central activities of the company. An example is selling land at a price above cost (at a gain) for companies not in the business of selling land.

Both expenses and losses are outflows of net assets. However, expenses occur in the normal course of operations, whereas losses occur from transactions peripheral to the central activities of the company. An example is a loss suffered from fire damage.
- Accrual accounting requires recording revenues when earned and recording expenses when incurred, regardless of the timing of cash receipts or payments. Cash basis accounting is recording revenues when cash is received and expenses when cash is paid.

- The three criteria that must be met for revenue to be recognized under the accrual basis of accounting are 1) the earnings process is complete or nearly complete; 2) an exchange transaction takes place; and 3) collection is reasonably assured.
- The matching principle requires that expenses be recorded when incurred in earning revenue. For example, the cost of inventory sold during a period is recorded in the same period of the sale, not when the goods are produced and held for sale.
- Net income equals revenues minus expenses. Thus revenues increase net income and expenses decrease net income. Because net income increases stockholders' equity, revenues increase stockholders' equity and expenses decrease it.
- Revenues increase stockholders' equity and expenses decrease stockholders' equity. To increase stockholders' equity, an account must be credited; to decrease stockholders' equity, an account must be debited. Thus revenues are recorded as credits and expenses as debits.

Item	Increase	Decrease
Revenues	Credit	Debit
Losses	Debit	Credit
Gains	Credit	Debit
Expenses	Debit	Credit

Item	Debit	Credit
Revenues	Decrease	Increase
Losses	Increase	Decrease
Gains	Decrease	Increase
Expenses	Increase	Decrease

Item	Operating, Investing, or Financing	Direction
Cash paid to suppliers	Operating	-
Sale of goods on account	None	None
Cash received from customers	Operating	+
Purchase of investments	Investing	-
Cash paid for interest	Operating	-
Issuance of stock for cash	Financing	+

- Asset turnover is calculated as Sales ÷ Average total assets. The asset turnover ratio measures the sales generated per dollar of assets. A high ratio suggests that the company is managing its assets (resources used to generate revenues) efficiently.

Authors' Recommended Solution Time
(Time in minutes)

Mini-exercises		Exercises		Problems		Alternate Problems		Cases and Projects	
No.	Time	No.	Time	No.	Time	No.	Time	No.	Time
1	5	1	10	1	20	1	30	1	20
2	6	2	20	2	20	2	30	2	30
3	5	3	20	3	25	3	35	3	20
4	5	4	20	4	40	4	40	4	30
5	5	5	20	5	20	5	20	5	30
6	5	6	18	6	40	6	40	6	40
7	6	7	20	7	30		30	7	60
8	6	8	20					8	30
9	6	9	20					9	*
10	6	10	20					10	*
11	6	11	15					11	*
		12	20					12	*
		13	20					13	*
		14	20						
		15	20						
		16	20						
		17	10						
		18	10						

* Due to the nature of these cases and projects, it is very difficult to estimate the amount of time students will need to complete the assignment. As with any open-ended project, it is possible for students to devote a large amount of time to these assignments. While students often benefit from the extra effort, we find that some become frustrated by the perceived difficulty of the task. You can reduce student frustration and anxiety by making your expectations clear. For example, when our goal is to sharpen research skills, we devote class time discussing research strategies. When we want the students to focus on a real accounting issue, we offer suggestions about possible companies or industries.

MINI-EXERCISES

M3-1.

TERM	
F	(1) Losses
D	(2) Matching principle
G	(3) Revenues
C	(4) Time period assumption
E	(5) Operating cycle

M3-2.

Cash Basis Income Statement		Accrual Basis Income Statement	
Revenues:		Revenues:	
Cash sales	\$6,000	Sales to customers	\$10,000
Customer deposits	1,000		
Expenses:		Expenses:	
Inventory purchases	1,000	Cost of sales	7,000
Wages paid	600	Wages expense	600
		Utilities expense	200
Net Income	<u>\$5,400</u>	Net Income	<u>\$2,200</u>

M3-3.

Accounts Affected and Type of Account		Amount of Revenue Earned in July OR Revenue Criteria Not Met
a. Cash (+A) Game fees revenue (+R)		\$10,000
b. Cash (+A) Accounts receivable (+A) Equipment sales revenue (+R)		\$5,000
c. Cash (+A) Accounts receivable (-A)		No revenue earned in July; cash collections in July related to earnings in June.
d. Cash (+A) Unearned revenue (+L)		No revenue earned in July; earnings process is not yet complete.

M3-4.

Accounts Affected and Type of Account	Amount of Expense Incurred in July OR Why an Expense is Not Recorded
a. Inventory (-A) Cost of goods sold (+E → -SE)	\$2,000
b. Accounts payable (+L) Cash (-A) Utilities expense (+E → -SE)	\$2,200 incurred in July; \$2,000 incurred in June.
c. Cash (-A) Wages expense (+E → -SE)	\$4,000
d. Cash (-A) Prepaid expense (+A) Insurance expense (+E → -SE)	\$400 incurred in July; \$800 not incurred until future months
e. Cash (-A) Repairs and maintenance expense (+E → -SE)	\$1,000

M3-5.

a. Cash (+A).....	10,000	
Game fees revenue (+R).....		10,000
b. Cash (+A).....	3,000	
Accounts receivable (+A).....	2,000	
Equipment sales revenue (+R).....		5,000
c. Cash (+A).....	1,000	
Accounts receivable (-A).....		1,000
d. Cash (+A).....	1,500	
Unearned revenue (+L).....		1,500

M3-6.

a. Cost of goods sold (+E → -SE).....	2,000	
Inventory (-A).....		2,000
b. Utilities expense (+E → -SE).....	2,200	
Cash (-A).....		2,000
Accounts payable (+L).....		200
c. Wages expense (+E → -SE).....	4,000	
Cash (-A).....		4,000
d. Insurance expense (+E → -SE).....	400	
Prepaid expenses (+A).....	800	
Cash (-A).....		1,200
e. Repairs and maintenance expense (+E → -SE).....	1,000	
Cash (-A).....		1,000

M3-7.

Balance Sheet			Income Statement		
Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	Net Income
a. +10,000	NE	+10,000	+10,000	NE	+10,000
b. +5,000	NE	+5,000	+5,000	NE	+5,000
c. +/-1,000	NE	NE	NE	NE	NE
d. +1,500	+1,500	NE	NE	NE	NE

Transaction (c) results in an increase in an asset (property, plant, and equipment) and a decrease in an asset (cash). Therefore, there is no net effect on assets.

M3-8.

	Balance Sheet			Income Statement		
	Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	Net Income
a.	-2,000	NE	-2,000	NE	+2,000	-2,000
b.	-2,000	+200	-2,200	NE	+2,200	-2,200
c.	-4,000	NE	-4,000	NE	+4,000	-4,000
d.	-1,200/+800	NE	-400	NE	+400	-400
e.	-1,000	NE	-1,000	NE	+1,000	-1,000

Transaction (d) results in an increase in an asset (prepaid expenses) and a decrease in an asset (cash). Therefore, the net effect on assets is - 400.

M3-9.

Bob's Bowling, Inc.
Income Statement
For the Month of July 20B

Revenues:	
Game fees	\$10,000
Equipment sales	5,000
Total revenues	<u>\$15,000</u>
Expenses:	
Cost of goods sold	\$ 2,000
Utilities expense	2,200
Wages expense	4,000
Insurance expense	400
Repairs and maintenance	1,000
Total expenses	<u>\$ 9,600</u>
Net income	<u>\$ 5,400</u>

M3-10.

Bob's Bowling, Inc.
Partial Statement of Cash Flows
For the Month ended July 31, 20B

Operating Activities:

Cash received from customers (=10,000+3,000+1,000+1,500)	\$15,500
Cash paid to suppliers (=2,000+1,200+1,000)	(4,200)
Cash paid to employees	(4,000)
Total cash from operating activities	<u>\$ 7,300</u>

M3-11.

	20B	20C
Asset Turnover = $\frac{\text{Sales}}{\text{Average Total Assets}}$	$\frac{\$144,000}{\$45,000} = 3.2$	$\frac{\$154,000}{\$55,000} = 2.8$

* $(\$40,000 + \$50,000) \div 2$
** $(\$50,000 + \$60,000) \div 2$

The decrease in the asset turnover ratio suggests that the company is managing its assets less efficiently, generating fewer sales per dollar of assets in 20C than in 20B.

EXERCISES

E3-1.

TERM
F (1) Expenses
E (2) Gains
G (3) Revenue principle
I (4) Cash basis accounting
D (5) Unearned revenue
C (6) Operating cycle
M (7) Accrual basis accounting
K (8) Prepaid expenses
J (9) Revenues - Expenses = Net income
L (10) Ending Retained Earnings = Beginning Retained Earnings + Net Income - Dividends

E3-2.

Activity	Accounts Affected and Type of Account	Amount of Revenue Earned in September
		OR Revenue Criteria Not Met
a.	Accounts receivable (+A) Sales revenue (+R)	\$25,000
b.	Cash (+A) Sales revenue (+R)	\$21,000
c.	None	No transaction has occurred, exchange of promises only.
d.	Accounts receivable (+A) Sales revenue (+R)	\$18,000
e.	Cash (+A) Accounts receivable (-A)	Payment related to revenue previously recorded in (d).
f.	Cash (+A) Unearned revenue (+L)	No revenue earned in September; earnings process is not yet complete.
g.	Cash (+A) Common stock (+SE)	No revenue is earned as the issuance of shares is a financing activity.
h.	Cash (+A) Unearned revenue (+L)	No revenue earned in September; earnings process is not yet complete.
i.	Unearned revenue (-L) Ticket sales revenue (+R)	\$4,000,000
j.	Cash (+A) Unearned revenue (+L)	No revenue earned in September; earnings process is not yet complete.
k.	Cash (-A) Customer loans receivable (+A) Interest revenue (+R) Interest receivable (+A)	\$10 (= \$1,000 x 12% ÷ 12 months)
l.	Cash (+A) Unearned revenue (+L)	No revenue earned in September; earnings process is not yet complete.
m.	Accounts receivable (+A) Sales revenue (+R)	\$100

E3-3.

Amount of Expense Incurred in January
OR

Repairs expense (+E → -SE)	
----------------------------	--

Activity	Accounts Affected and Type of Account	Why an Expense is Not Recognized
a.	Salary payable (-L) Salary expense (+E → -SE) Cash (-A)	\$45,000 incurred in January. The remaining half was incurred in December.
b.	Cash (-A) Prepaid insurance (+A) Insurance expense (+E → -SE)	\$1,500 incurred in January. The remainder is not incurred until February and March.
c.	Utilities expense (+E → -SE) Utilities payable (+L)	\$1,000
d.	Inventory (-A) Cost of goods sold (+E → -SE)	\$4,500
e.	Inventory (+A) Accounts payable (+L)	Expense will be recorded in the future when the related revenue has been earned.
f.	Cash (+A) Sales revenue (+R → +SE) Inventory (-A) Cost of goods sold (+E → -SE)	\$22,500 (=450 books x \$50 per book)
g.	Cash (-A) Commissions payable (-L)	December expense paid in January.
h.	Commissions payable (+L) Commission expense (+E → -SE)	\$4,200
i.	Cash (-A) Equipment (+A)	Expense will be recorded as depreciation over the equipment's useful life.
j.	Cash (-A) Prepaid printing (+A)	Expense will be recorded when the related revenue has been earned.
k.	Cash (-A) Supplies (+A) when purchased Supplies (-A) when used Supplies expense (+E → -SE)	\$700
l.	Wages payable (+L) Wages expense (+E → -SE)	\$120
m.	Cash (-A) Prepaid insurance (+A) Insurance expense (+E → -SE)	\$300
n.	Accounts payable (+L)	\$280

E3-3. (continued)

Amount of Expense Incurred in January
OR

Activity	Accounts Affected and Type of Account	Why an Expense is Not Recorded
o.	Accounts Payable (+L) Utilities Expense (+E → -SE)	\$230
p.	Cash (-A) Consulting Expense (+E → -SE)	\$1,500
q.	Cash (-A) Accounts Payable (-L)	December expense paid in January.

Transaction (l) results in an increase in an asset (cash) and a decrease in an asset (accounts receivable). Therefore, there is no net effect on assets.

E3-4.

Balance Sheet Income Statement

	Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	Net Income
a.	+	NE	+	NE	NE	NE
b.	+	+	NE	NE	NE	NE
c.	+	+	NE	NE	NE	NE
d.	+	NE	+	+	NE	+
e.	NE	+	-	NE	+	-
f.	+	NE	+	+	NE	+
g.	-	-	NE	NE	NE	NE
h.	-	NE	-	NE	+	-
i.	+	NE	+	+	NE	+
j.	-	NE	-	NE	+	-
k.	-	NE	-	NE	NE	NE
l.	+/-	NE	NE	NE	NE	NE
m.	-	+	-	NE	+	-
n.	-	NE	-	NE	+	-

E3-5.

Balance Sheet			Income Statement		
Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	Net Income
a. +48,869	NE	+48,869	NE	NE	NE
b. +299,794	+299,794	NE	NE	NE	NE
c. +58,181	+58,181	NE	NE	NE	NE
d. +413,957/ -290,469	NE	+123,488	+413,957	+290,469	+123,488
e. -2,347	NE	-2,347	NE	NE	NE
f. +/-18,645	NE	NE	NE	NE	NE
g. -57,329	+28,664	-85,993	NE	+85,993	-85,993
h. +1,039	NE	+1,039	+1,039	NE	+1,039
i. NE	+4,717	-4,717	NE	+4,717	-4,717

Transaction (f) results in an increase in an asset (property, plant, and equipment) and a decrease in an asset (cash). Therefore, there is no net effect on assets.

E3-6.

- a. Cash (+A) 80M
Notes payable (+L) 80M
Debits equal credits. Assets and liabilities increase by the same amount.
- b. Cash (+A) 52B
Accounts receivable (+A) 9.50B
Service revenue (+R→+SE) 10.02B
Debits equal credits. Revenue increases retained earnings (part of stockholders' equity). Stockholders' equity and assets increase by the same amount.
- c. Plant and equipment (+A) 127.9M
Cash (+A) 127.9M
Debits equal credits. Assets increase and decrease by the same amount.

E3-6. (continued)

- d. Inventory (+A) 8.268B
Accounts payable (+L) 8.268B
Debits equal credits. Assets and liabilities increase by the same amount.
- e. Payroll expense (+E→ -SE) 1.02B
Cash (-A) 1.02B
Debits equal credits. Expenses decrease retained earnings (part of stockholders' equity). Stockholders' equity and assets decrease by the same amount.
- f. Cash (+A) 410M
Accounts receivable (-A) 410M
Debits equal credits. Assets increase and decrease by the same amount.
- g. Fuel expense (+E) 400M
Cash (-A) 400M
Debits equal credits. Expenses decrease retained earnings (part of stockholders' equity). Stockholders' equity and assets decrease by the same amount.
- h. Retained earnings (-SE) 48.8M
Cash (-A) 48.8M
Debits equal credits. Assets and shareholders' equity decrease by the same amount.
- i. Accounts payable (-L) 8.2B
Cash (-A) 8.2B
Debits equal credits. Assets and liabilities decrease by the same amount.
- j. Utilities expense (E→ -SE) 20M
Cash (-A) 15M
Accounts payable (+L) 5M
Debits equal credits. Expenses decrease retained earnings (part of stockholders' equity). Together, stockholders' equity and liabilities decrease by the same amount as assets.

E3-7.

Req. 1

- a. Cash (+A) 500,000
Note payable (+L) 500,000
Debits equal credits. Assets and liabilities increase by the same amount.
- b. Equipment (+A) 20,000
Cash (-A) 20,000
Debits equal credits. Assets increase and decrease by the same amount.
- c. Merchandise inventory (+A) 10,000
Accounts payable (+L) 10,000
Debits equal credits. Assets and liabilities increase by the same amount.
- d. Repair and maintenance expense (+E→ -SE) 22,000
Cash (-A) 22,000
Debits equal credits. Expenses decrease retained earnings (part of stockholders' equity). Stockholders' equity and assets decrease by the same amount.
- e. Cash (+A) 72,000
Unearned pass revenue (+L) 72,000
Debits equal credits. Since the season passes are sold before Greek Peak provides service, revenue is deferred until it is earned. Assets and liabilities increase by the same amount.
- f. Cash (+A) 76,000
Lift revenue (+R→+SE) 76,000
Debits equal credits. Revenue increases retained earnings (a part of stockholders' equity). Stockholders' equity and assets increase by the same amount.
- g. Two transactions occur:
(1) Accounts receivable (+A) 350
Ski shop sales revenue (+R→+SE) 350
Debits equal credits. Revenue increases retained earnings (a part of stockholders' equity). Stockholders' equity and assets increase by the same amount.
(2) Cost of goods sold (+E→ -SE) 250
Merchandise inventory (-A) 250
Debits equal credits. Expenses decrease retained earnings (a part of stockholders' equity). Stockholders' equity and assets decrease by the same amount.

E3-7. (continued)

- h. Cash (+A) 320
Unearned rent revenue (+L) 320
Debits equal credits. Since the rent is received before the townhouse is used, revenue is deferred until it is earned. Assets and liabilities increase by the same amount.
- i. Accounts payable (-L) 5,000
Cash (-A) 5,000
Debits equal credits. Assets and liabilities decrease by the same amount.
- j. Cash (+A) 200
Accounts receivable (-A) 200
Debits equal credits. Assets increase and decrease by the same amount.
- k. Wages expense (+E→ -SE) 108,000
Cash (-A) 108,000
Debits equal credits. Expenses decrease retained earnings (a part of stockholders' equity). Stockholders' equity and assets decrease by the same amount.

Req. 2

Accounts Receivable		
Beg. bal.	1,200	(j) 200
(g)	350	
End. bal.	1,350	

E3-8.

2/1	Rent expense (+E → -SE)	200	
	Cash (-A)		200
2/2	Fuel expense (+E → -SE)	450	
	Accounts payable (+L)		450
2/4	Cash (+A)	800	
	Unearned revenue (+L)		800
2/7	Cash (+A)	900	
	Transport revenue (+R → +SE)		900
2/10	Wages payable (-L)	1,200	
	Cash (-A)		1,200
2/14	Advertising expense (+E → -SE)	60	
	Cash (-A)		60
2/18	Cash (+A)	500	
	Accounts receivable (+A)	1,200	
	Transport revenue (+R → +SE)		1,700
2/25	Parts inventory (+A)	1,350	
	Accounts payable (+L)		1,350
2/27	Retained earnings (-SE)	200	
	Dividends payable (+L)		200

E3-9.

Req. 1 and 2

Cash		Accounts Receivable		Supplies	
6,000	1,700 (g)	25,000	6,000 (d)	1,200	
(a) 500	10,000 (i)			(k) 800	
(b) 300	3,000 (j)				
(c) 14,500	800 (k)				
(d) 6,000					
<u>11,800</u>		<u>19,000</u>		<u>2,000</u>	
Equipment		Land		Building	
8,000		6,000		22,000	
(h) 600					
<u>8,600</u>		<u>6,000</u>		<u>22,000</u>	
Accounts Payable		Deferred Revenue		Note Payable	
(g) 1,700	8,000	3,200			40,000
	350 (e)	500 (a)			
<u>6,650</u>		<u>3,700</u>			<u>40,000</u>
Contributed Capital		Retained Earnings		Rebuilding Fees Revenue	
8,000	(j) 3,000	9,000		14,500 (c)	
600 (h)					
<u>8,600</u>		<u>6,000</u>		<u>14,500</u>	
Rent Revenue		Wages Expense		Utilities Expense	
300 (b)	(i) 10,000			(e) 350	
<u>300</u>	<u>10,000</u>			<u>350</u>	

Item (f) is not a transaction; there has been no exchange.

E3-9. (continued)

Req. 3

Revenues	\$14,800	(\$14,500 + 300)
- Expenses	<u>10,350</u>	(\$10,000 + 350)
Net Income	\$ 4,450	

Assets, \$69,400 (\$11,800 + 19,000 + 2,000 + 8,600 + 6,000 + 22,000) =
Liabilities, \$50,350 (\$6,650 + 3,700 + 40,000)
+ Stockholders' Equity, \$19,050 (\$8,600 + 6,000 + 4,450 net income)

Req. 4

Net income using the cash basis of accounting would be \$8,800. Cash revenues of \$21,300 were received (transactions a through d) and cash expenses of \$12,500 were paid (transactions g, i, and k).

E3-10.

Req. 1

SWANSON'S PIANO REBUILDING COMPANY	
Income Statement (unadjusted)	
For the Month Ended January 31, 20B	
Revenues:	
Rebuilding Fees revenue	\$ 14,500
Rent revenue	<u>300</u>
Total revenues	\$ 14,800
Costs and expenses:	
Wages expense	\$ 10,000
Utilities expense	<u>350</u>
Total costs and expenses	<u>\$ 10,350</u>
Net Income	\$ 4,450

E3-10. (continued)

Req. 2

SWANSON'S PIANO REBUILDING COMPANY
Statement of Retained Earnings (unadjusted)
For the Month Ended January 31, 20B

Retained Earnings, December 31, 20A	\$ 9,000
Net income	4,450
Dividends	<u>(3,000)</u>
Retained Earnings, January 31, 20B	\$ 10,450

Req. 3

SWANSON'S PIANO REBUILDING COMPANY
Balance Sheet (unadjusted)
At January 31, 20B

Assets	
Current assets:	
Cash	\$ 11,800
Accounts receivable	19,000
Supplies	<u>2,000</u>
Total current assets	32,800
Equipment	8,600
Land	6,000
Building	<u>22,000</u>
Total Assets	\$ 69,400
Liabilities	
Current liabilities:	
Accounts payable	\$ 6,650
Deferred revenue	<u>3,700</u>
Total current liabilities	10,350
Note payable	<u>40,000</u>
Total Liabilities	\$ 50,350
Stockholders' Equity	
Contributed Capital	\$ 8,600
Retained Earnings	<u>10,450</u>
Total Stockholders' Equity	\$ 19,050
Total Liabilities and Stockholders' Equity	\$ 69,400

E3-11.

SWANSON'S PIANO REBUILDING COMPANY
Statement of Cash Flows
For the Month Ended January 31, 20B

Operating Activities	
Cash received from customers (=\$500+\$300+\$14,500+\$6,000)	\$21,300
Cash paid to employees	(10,000)
Cash paid to suppliers (=\$1,700+\$800)	(2,500)
Total cash from operating activities	<u>\$ 8,800</u>
Financing Activities	
Dividends paid	\$(3,000)
Total cash used in financing activities	<u>\$(3,000)</u>
Increase in cash	\$ 5,800
Beginning cash balance	6,000
Ending cash balance	<u>\$11,800</u>

Transaction (h) is omitted from the statement of cash flows because the transaction did not involve a cash payment. However, as discussed in future chapters, this type of transaction is a noncash investing and financing activity that requires supplemental disclosure.

E3-12.

Req. 1 and 2

Cash		Accounts Receivable		Supplies	
(a) 20,000	9,000 (b)	(a) 2,000		(a) 1,200	
(c) 25,000	8,830 (d)	(f) 1,500			
(e) 10,900	63 (h)				
(f) 1,700	5,080 (i)				
	600 (j)				
	25,000 (k)				
<u>9,027</u>		<u>3,500</u>		<u>1,200</u>	
Equipment		Building		Accounts Payable	
(a) 18,300		(b) 60,000			320 (g)
(k) 15,000		(k) 10,000			
<u>33,300</u>		<u>70,000</u>			<u>320</u>
Note Payable		Mortgage Payable		Contributed Capital	
	25,000 (c)		51,000 (b)		41,500 (a)
	<u>25,000</u>		<u>51,000</u>		<u>41,500</u>
Retained Earnings		Food Sales Revenue		Catering Sales Revenue	
(j) 600			10,900 (e)		3,200 (f)
<u>600</u>			<u>10,900</u>		<u>3,200</u>
Cost of Food and Paper Products		Utilities Expense		Wages Expense	
(d) 8,830		(g) 320		(i) 5,080	
<u>8,830</u>		<u>320</u>		<u>5,080</u>	
Gasoline Expense					
(h) 63					
<u>63</u>					

E3-13.

Req. 1

THE TRAVELING GOURMET, INC.
Income Statement (unadjusted)
For the Month Ended March 31, 20C

Revenues:	
Food sales revenue	\$ 10,900
Catering sales revenue	3,200
Total revenues	<u>\$ 14,100</u>
Costs and expenses:	
Cost of food and paper products	\$ 8,830
Utilities expense	320
Wages expense	5,080
Gas expense	63
Total costs and expenses	<u>\$ 14,293</u>
Net Income	<u>\$ (193)</u>

Req. 2

THE TRAVELING GOURMET, INC.
Statement of Retained Earnings (unadjusted)
For the Month Ended March 31, 20C

Retained Earnings, March 1, 20C	\$ 0
Net income	(193)
Dividends	(600)
Retained Earnings, March 31, 20C	<u>\$ (793)</u>

E3-13. (continued)

Req. 3

THE TRAVELING GOURMET, INC.
Balance Sheet (unadjusted)
At March 31, 20C

Assets	
Current assets:	
Cash	\$ 9,027
Accounts receivable	3,500
Supplies	1,200
Total current assets	13,727
Equipment	33,300
Building	70,000
Total Assets	<u>\$117,027</u>
Liabilities	
Current liabilities:	
Accounts payable	\$ 320
Note payable	25,000
Total current liabilities	25,320
Mortgage payable	51,000
Total Liabilities	76,320
Stockholders' Equity	
Contributed Capital	41,500
Retained Earnings	(793)
Total Stockholders' Equity	<u>40,707</u>
Total Liabilities and Stockholders' Equity	<u>\$117,027</u>

Note: In many states, dividends could not have been declared legally due to the insufficient amount in retained earnings.

Req. 4

The company generated a small loss during its first month of operation, before making any adjusting entries. The adjusting entries for depreciation and interest expense will increase the loss. So far the company does not appear to be successful, but it is only in its first month of operating a retail store. If sales can be increased without inflating fixed costs (particularly wage expense), the company may soon turn a profit. It is not unusual for small businesses to lose money as they start up operations.

E3-14.

THE TRAVELING GOURMET, INC.
Statement of Cash Flows
For the Month Ended March 31, 20C

Operating Activities	
Cash received from customers (=\$10,900+\$1,700)	\$12,600
Cash paid to employees	(5,080)
Cash paid to suppliers (=\$8,830+\$63)	(8,893)
Total cash used in operating activities	(1,373)
Investing Activities	
Purchased building and equipment	(34,000)
Total cash used in investing activities	(34,000)
Financing Activities	
Borrowed on a note payable	25,000
Issued stock	20,000
Paid dividends	(600)
Total cash from financing activities	44,400
Increase in cash	9,027
Beginning cash balance	0
Ending cash balance	\$ 9,027

Note that portions of transactions (a) and (b) are omitted from the statement of cash flows. However, as discussed in future chapters, these types of transactions are noncash investing and financing activities that require supplemental disclosure.

E3-15.

Req. 1

Transaction	Brief Explanation
a	Issued capital stock to shareholders for \$50,000 cash.
b	Purchased store fixtures for \$10,000 cash.
c	Purchased \$20,000 of inventory, paying \$5,000 cash and the balance on account.
d	Sold \$10,000 of goods or services to customers, receiving \$7,000 cash and the balance on account. The cost of the goods sold was \$3,000.
e	Paid \$2,000 in cash for rent, \$500 related to the current month and \$1,500 related to future months.
f	Paid \$1,000 to employees.
g	Used \$1,200 of utilities during the month, not yet paid.
h	Received \$3,000 cash from customers, \$1,000 related to current sales and \$2,000 related to goods or services to be provided in the future.

Req. 2

Kierman Kite Company
Income Statement
For the Month Ended April 30, 20B

Sales Revenue	\$ 11,000
Expenses:	
Cost of goods sold	\$ 3,000
Wages expense	1,000
Rent expense	500
Utilities expense	1,200
Total costs and expenses	<u>\$ 5,700</u>
Net Income	<u>\$ 5,300</u>

E3-15. (continued)

Kierman Kite Company
Balance Sheet
At April 30, 20B

Assets		Liabilities	
Current Assets		Current Liabilities	
Cash	\$42,000	Accounts Payable	\$16,200
Accounts receivable	3,000	Unearned Revenue	2,000
Inventory	17,000	Total current liabilities	18,200
Prepaid expenses	1,500	Shareholders' Equity	
Total Current Assets	63,500	Contributed Capital	50,000
Store fixtures	10,000	Retained Earnings	5,300
		Total Shareholders' Equity	55,300
Total Assets	<u>\$73,500</u>	Total Liabilities & Shareholders' Equity	<u>\$73,500</u>

E3-16.

Req. 1

Assets, \$22,000 (\$4,000 + 10,000 + 8,000) =
 Liabilities, \$12,000 (\$3,000 + 7,000 + 2,000)
 + Stockholders' Equity, \$10,000 (\$6,000 + 4,000)

Req. 2

Cash		Accounts Receivable		Long-Term Investments	
4,000	54,000 (d)	10,000	7,000 (a)	8,000	
(a) 7,000	600 (f)	(b) 10,000			
(b) 60,000					
(c) 500					
(g) 2,000					
<u>18,900</u>		<u>13,000</u>		<u>8,000</u>	
Accounts Payable		Unearned Revenue		Long-Term Notes Payable	
(d) 2,000	3,000		7,000		2,000
	1,000 (e)		2,000 (g)		
	<u>2,000</u>		<u>9,000</u>		<u>2,000</u>

E3-16. (continued)

Contributed Capital		Retained Earnings			
	6,000	(f) 600	4,000		
	<u>6,000</u>		<u>3,400</u>		
Consulting Fee Revenue		Investment Income			
	70,000 (b)		500 (c)		
	<u>70,000</u>		<u>500</u>		
Wages Expense		Travel Expense		Utilities Expense	
(d) 20,000		(d) 20,000		(e) 1,000	
<u>20,000</u>		<u>20,000</u>		<u>1,000</u>	
Rent Expense					
(d) 12,000					
<u>12,000</u>					

Req. 3

Revenues, \$70,500 (\$70,000 + 500) –
 Expenses, \$53,000 (\$20,000 + 20,000 + 1,000 + 12,000)
 = Net Income, \$17,500.

Assets, \$39,900 (\$18,900 + 13,000 + 8,000) =
 Liabilities, \$13,000 (\$2,000 + 9,000 + 2,000) +
 Stockholders' Equity, \$26,900 (\$6,000 + 3,400 + 17,500 net income)

Req. 4

$$\text{Asset Turnover} = \frac{\text{Sales}}{\text{Average Total Assets}} = \frac{\$70,500}{\$30,950^*} = 2.28$$

* (\$22,000 + \$39,900) ÷ 2

The increasing trend in the asset turnover ratio from 1.80 in 20B and 2.00 in 20C to 2.28 in 20D suggests that the company is managing its assets more efficiently over time.

E3-17.

Req. 1

Accounts receivable increase with customer sales on account and decrease with cash payments received from customers.

Prepaid expenses increase with cash payments of expenses related to future periods and decrease as these expenses are incurred over time.

Unearned revenue increases with cash payments received from customers for goods or services to be provided in the future and decreases when those goods and services are provided.

Req. 2

Accounts Receivable		Prepaid Expenses		Unearned Revenue	
1/1	313	1/1	25	240	1/1
	2,573		43	315	328
12/31	295	12/31	26	253	12/31

Computations:

	Beginning	+	"+"	-	"-"	=	Ending
Accounts receivable	313	+	2,573	-	?	=	295
					?	=	2,591
Prepaid expenses	25	+	43	-	?	=	26
					?	=	42
Unearned revenues	240	+	328	-	?	=	253
					?	=	315

E3-18.

ITEM	LOCATION
1. Description of a company's primary business(es).	Letter to shareholders; Management discussion and analysis; Summary of significant accounting policies note
2. Income taxes paid.	Notes
3. Accounts receivable.	Balance sheet
4. Cash flow from operating activities.	Statement of cash flows
5. Description of a company's revenue recognition policy.	Summary of significant accounting policies note
6. The inventory sold during the year.	Income statement (Cost of Goods Sold)
7. The data needed to compute the total asset turnover ratio.	Balance sheet and income statement

PROBLEMS

P3-1.

Transaction	Debit	Credit
a.	5	1,8
b.	1	11
c.	14	1
d.	1	13
e.	1	2
f.	2	13
g.	14	1
h.	7	1
i.	14	7
j.	3	1
k.	14	3
l.	6	1
m.	8, 14	1
n.	15	1, 10
o.	4	1

P3-2.

5/1	Cash (+A).....	30,000	
	Contributed capital (+SE).....		30,000
5/1	Cash (+A).....	50,000	
	Long-term debt (+L).....		50,000
5/1	Rent expense (+E → -SE).....	1,200	
	Prepaid rent (+A).....	1,200	
	Cash (-A).....		2,400
5/1	Prepaid insurance (+A).....	2,400	
	Cash (-A).....		2,400
5/3	Furniture and fixtures (+A).....	15,000	
	Accounts payable (+L).....		15,000
5/4	Inventory (+A).....	1,800	
	Cash (-A).....		1,800

5/5	Advertising expense (+E → -SE).....	250	
	Cash (-A).....		250

P3-2. (continued)

5/9	Cash (+A).....	200	
	Accounts receivable (+A).....	200	
	Sales revenue (+R→+SE).....		400
	Cost of goods sold (+E→ -SE).....	150	
	Inventory (-A).....		150
5/10	Accounts payable (-L).....	15,000	
	Cash (-A).....		15,000
5/14	Cash (+A).....	50	
	Accounts receivable (-A).....		50

P3-3.

Req. 1

Req. 2

Balance Sheet			Income Statement			Stmnt of Cash Flows
Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	Net Income	
a. + / -	NE	NE	NE	NE	NE	I
b. +	NE	+	+	NE	+	O
c. -	NE	-	NE	NE	NE	F
d. -	+	-	NE	+	-	O
e. +	NE	+	+	NE	+	O
f. -	NE	-	NE	+	-	O
g. + / -	+	NE	NE	NE	NE	O
h. -	NE	-	NE	+	-	None*

* Cash is not affected in this transaction.

P3-4.

Req. 1 and 2

Cash		Accounts Receivable		Supplies	
(a) 16,000	2,400 (b)	(h) 275	50 (k)	(c) 300	
(e) 10,000	300 (c)				
(h) 1,525	10,000 (f)				
(k) 50	425 (g)				
(m) 2,000	500 (j)				
	420 (i)				
	118 (l)				
<u>15,412</u>		<u>225</u>		<u>300</u>	
Merchandise Inventory		Prepaid Rent		Equipment	
(d) 5,000	1,000 (h)	(b) 2,400		(f) 2,500	
	1,100 (m)				
<u>2,900</u>		<u>2,400</u>		<u>2,500</u>	
Furniture and Fixtures		Accounts Payable		Notes Payable	
(f) 7,500		(i) 500	5,000 (d)		10,000 (e)
<u>7,500</u>		<u>4,500</u>		<u>10,000</u>	
Contributed Capital		Sales Revenue		Cost of Goods Sold	
	16,000 (a)		1,800 (h)	(h) 1,000	
			2,000 (m)	(m) 1,100	
	<u>16,000</u>		<u>3,800</u>	<u>2,100</u>	
Advertising Expense		Wages Expense		Repair Expense	
(g) 425		(j) 420		(l) 118	
<u>425</u>		<u>420</u>		<u>118</u>	

P3-4. (continued)

Req. 3

PAULA'S PASSIONS
Income Statement (unadjusted)
For the Month Ended February 28, 20A

Revenues:	
Sales revenue	\$ 3,800
Costs and expenses:	
Cost of goods sold	2,100
Advertising expense	425
Wages expense	420
Repair expense	118
Total costs and expenses	<u>3,063</u>
Net Income	<u>\$ 737</u>

PAULA'S PASSIONS
Statement of Retained Earnings (unadjusted)
For the Month Ended February 28, 20A

Retained earnings, February 1, 20A	\$ 0
Net income	737
Dividends	0
Retained earnings, February 28, 20A	<u>\$ 737</u>

P3-4. (continued)

PAULA'S PASSIONS
Balance Sheet (unadjusted)
At February 28, 20A

Assets	
Current assets:	
Cash	\$15,412
Accounts receivable	225
Supplies	300
Merchandise inventory	2,900
Prepaid rent	<u>2,400</u>
Total current assets	21,237
Furniture and fixtures	7,500
Equipment	<u>2,500</u>
Total Assets	<u>\$31,237</u>
Liabilities	
Current liabilities:	
Accounts payable	\$ 4,500
Total current liabilities	4,500
Note payable	<u>10,000</u>
Total Liabilities	14,500
Stockholders' Equity	
Contributed capital	16,000
Retained earnings	<u>737</u>
Total Stockholders' Equity	<u>16,737</u>
Total Liabilities and Stockholders' Equity	<u>\$31,237</u>

Req. 4

Date: (today's date)
To: Paula Richardson
From: (your name)

After analyzing the effects of transactions for Paula's Passions for February, the company has realized a profit of \$737. This is 19% of sales revenue. However, this is based on unadjusted amounts. There are several additional expenses that will decrease the net income amount. These include rent, supplies, depreciation, interest, and wages. Therefore, the company does not appear to be profitable, which is common for small businesses at the beginning of operations. A focus on maintaining expenses while increasing revenues should result in profit in future periods. It would also be useful to prepare a budget of cash flows each month for the upcoming year to decide how potential cash shortages will be handled.

P3-4. (continued)

Req. 5		20B	20C
Asset Turnover	= $\frac{\text{Sales}}{\text{Average Total Assets}}$	$\frac{\$75,000}{\$40,000} = 1.88$	$\frac{\$85,000}{\$62,500} = 1.36$

* $(\$35,000 + \$45,000) \div 2$
 ** $(\$45,000 + \$80,000) \div 2$

The ratio for 20C is lower than it otherwise would have been given Paula's decision to open a second store. The loans and inventory purchases required have increased the average total assets used and therefore decreased the turnover ratio. With future sales expected to grow, the ratio should increase in coming years. Based on this rationale, the manager should be promoted.

P3-5.

PAULA'S PASSIONS
Statement of Cash Flows
For the Month Ended February 28, 20A

Operating Activities	
Cash received from customers	\$ 3,575
(= \$1,525 + 50 + 2,000)	
Cash paid to employees	(420)
Cash paid to suppliers	(3,743)
(= \$2,400 + 300 + 425 + 500 + 118)	
Total cash used in operating activities	<u>(588)</u>
Investing Activities	
Purchased fixed assets	(10,000)
Total cash used in investing activities	<u>(10,000)</u>
Financing Activities	
Issued stock	16,000
Borrowed from bank	10,000
Total cash from financing activities	<u>26,000</u>
Increase in cash	\$15,412
Beginning cash balance	0
Ending cash balance	<u>\$15,412</u>

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Item k does not result in a transaction.

P3-6.

Req. 1 and 2

ASSETS:			Receivables		Flight and Ground Equipment	
Cash						
155	744	(c)	923	6,524	(e)	3,476
(a) 600	396	(d)	(a) 7,200		(b) 816	
(e) 6,524	3,804	(h)				
(f) 900	492	(i)				
(g) 240	384	(j)				
<u>2,599</u>			<u>1,599</u>		<u>4,292</u>	
Prepaid Expenses			Other Assets		Spare Parts, Supplies, and Fuel	
64			1,011		164	
(c) 96						
<u>160</u>			<u>1,011</u>		<u>164</u>	
LIABILITIES:			Accrued Expenses Payable		Long-term Notes Payable	
Accounts Payable						
(j) 384	554		761		2,016	
					816	(b)
					900	(f)
	<u>170</u>		<u>761</u>		<u>3,732</u>	
Other Noncurrent Liabilities			STOCKHOLDERS' EQUITY:		Retained Earnings	
	790		702		970	
			240	(g)		
	<u>790</u>		<u>942</u>		<u>?</u>	
REVENUES AND EXPENSES:			Rental Expense		Repair Expense	
Delivery Service Revenue						
	7,800	(a)	(c) 648		(d) 396	
	<u>7,800</u>		<u>648</u>		<u>396</u>	
Wages Expense			Fuel Expense			
(h) 3,804			(i) 492			
	<u>3,804</u>		<u>492</u>			

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P3-6 (continued)

Req. 3

FEDERAL EXPRESS CORPORATION
Income Statement (unadjusted)
For the Month Ended June 30, 20A
 (in millions)

Revenues:	
Delivery service revenue	\$ 7,800
Costs and expenses:	
Rental expense	648
Wage expense	3,804
Fuel expense	492
Repair expense	396
Total costs and expenses	<u>5,340</u>
Net Income	<u>\$ 2,460</u>

FEDERAL EXPRESS CORPORATION
Statement of Retained Earnings (unadjusted)
For the Month Ended June 30, 20A
 (in millions)

Retained earnings, May 31, 20A	\$ 970
Net income	2,460
Dividends	0
Retained earnings, June 30, 20A	<u>\$ 3,430</u>

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P3-6. (continued)

FEDERAL EXPRESS CORPORATION
Balance Sheet (unadjusted)
At June 30, 20A
(in millions)

Assets	
<i>Current assets:</i>	
Cash	\$ 2,599
Receivables	1,599
Prepaid expenses	160
Spare parts, supplies, and fuel	164
<i>Total current assets:</i>	<u>4,522</u>
Flight and ground equipment	4,292
Other assets	1,011
Total assets	\$ 9,825
Liabilities	
<i>Current liabilities:</i>	
Accounts payable	\$ 170
Accrued expenses payable	761
<i>Total current liabilities</i>	<u>931</u>
Long-term notes payable	3,732
Other noncurrent liabilities	790
Total liabilities	5,453
Stockholders' Equity	
Contributed capital	942
Retained earnings	3,430
Total stockholders' equity	4,372
Total liabilities and stockholders' equity	\$ 9,825

P3-6. (continued)

FEDERAL EXPRESS CORPORATION
Statement of Cash Flows
For the Month Ended June 30, 20A
(in millions)

Operating Activities	
Cash received from customers	\$ 7,124
(=\$600+6,524)	
Cash paid to employees	(3,804)
Cash paid to suppliers	(2,016)
(=\$744+492+384+396)	
Total cash from operating activities	1,304
Financing Activities	
Proceeds from share issuance	240
Proceeds from notes payable	900
Total cash from financing activities	1,140
Increase in cash	2,444
Beginning cash balance	155
Ending cash balance	\$2,599

Note that transaction (b) is omitted from the statement of cash flows. However, as discussed in future chapters, this type of transaction is a noncash investing and financing activity that requires supplemental disclosure.

P3-6. (continued)

Req. 4

$$\text{Asset Turnover} = \frac{\text{Sales}}{\text{Average Total Assets}} = \frac{\$7,800}{\$7,809^*} = 1.00$$

$$^* (\$5,793 + \$9,825) \div 2$$

The asset turnover ratio suggests that the company obtained \$1 in sales for the month for every \$1 in assets. Assuming that sales are spread equally throughout the year, the annual asset turnover would be approximately 12. Compared to other examples in the text, this suggests that Federal Express is very efficient in its use of resources.

P3-7.

Req. 1

a. Cash (+A).....	89,664,000	
Admissions revenue (+R→+SE).....		89,664,000
b. Operating expenses (+E→ -SE).....	66,347,000	
Cash (-A).....	60,200,000	
Accounts payable (+L).....		6,147,000
c. Interest expense (+E→ -SE).....	6,601,000	
Cash (-A).....		6,601,000
d. Cash (+A).....	77,934,000	
Food, merchandise, and games revenue (+R→+ SE).....		77,934,000
e. Cost of products sold (+E→ -SE).....	19,525,000	
Food and merchandise inventory (-A).....		19,525,000
f. Property and equipment (+A).....	23,813,000	
Cash (-A).....		23,813,000
g. Depreciation expense (+E→ -SE).....	14,473,000	
Accumulated depreciation (-A).....		14,473,000
h. Cash (+A).....	11,010,000	
Accounts receivable (+A).....	335,000	
Accommodations revenue (+R→+SE).....		11,345,000

P3-7. (continued)

i. Notes payable (-L).....	2,900,000	
Cash (-A).....		2,900,000
j. Food and merchandise inventory (+A).....	19,100,000	
Cash (-A).....		18,000,000
Accounts payable (+L).....		1,100,000
k. Selling, general and admin. expenses (+E→ -SE).....	21,118,000	
Cash (-A).....		19,500,000
Accounts payable (+L).....		1,618,000
l. Accounts payable (-L).....	8,600,000	
Cash (-A).....		8,600,000

Req. 2

Transaction	Operating, Investing, or Financing Effect	Direction and Amount of the Effect
(a)	O	+89,664,000
(b)	O	-60,200,000
(c)	O	-6,601,000
(d)	O	+77,934,000
(e)	None	
(f)	I	-23,813,000
(g)	None	
(h)	O	+11,010,000
(i)	F	-2,900,000
(j)	O	-18,000,000
(k)	O	-19,500,000
(l)	O	-8,600,000

ALTERNATE PROBLEMS

AP3-1.	Transaction	Debit	Credit
	a.	1	11
	b.	2	13
	c.	3	7
	d.	4	1
	e.	5	1, 8
	f.	1	2
	g.	9	1
	h.	7	1
	i.	7	1
	j.	14	7
	k.	1	13
	l.	14	3
	m.	15	10
	n.	12	1
	o.	8, 14	1
	p.	None	

AP3-2.			
4/2	Office supplies (+A)	500	
	Accounts payable (+L)		500
4/3	Utilities expense (-E → -SE)	245	
	Accounts payable (+L)		245
4/5	Accounts receivable (+A)	1,950	
	Service revenue (+R → +SE)		1,950
4/8	Accounts payable (-L)	250	
	Cash (-A)		250
4/8	Advertising expense (+E → -SE)	400	
	Cash (-A)		400
4/9	Equipment (+A)	2,300	
	Cash (-A)		2,300

AP3-2. (continued)

4/10	Wages expense (+E → -SE)	1,000	
	Wages payable (-L)		200
	Cash (-A)		1,200
4/11	Cash (+A)	1,000	
	Accounts receivable (-A)		1,000
4/12	Land (+A)	10,000	
	Cash (-A)		2,000
	Note payable (+L)		8,000
4/13	Cash (+A)	80,000	
	Contributed capital (+SE)		80,000
4/14	Accounts receivable (+A)	2,000	
	Service revenue (+R → +SE)		2,000

AP3-3.

Balance Sheet			Income Statement			Req. 2	
Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	Net Income	Stmt of Cash Flow	
a.	-	+	-	NE	+	-	O
b.	+ / -	NE	Net +	+	+	Net +	None
c.	-	NE	-	NE	NE	NE	F
d.	+ / -	NE	NE	NE	NE	NE	O
e.	-	NE	-	NE	+	-	None
f.	-	-	-	NE	+	-	F for prin. / O for int.
g.	+	+	NE	NE	NE	NE	I
h.	-	-	NE	NE	NE	NE	O
i.	+	NE	+	NE	NE	NE	F
j.	-	NE	-	NE	+	-	O
k.	+	NE	+	+	NE	+	O

AP3-4.

Req. 1 and 2

Cash		Accounts Receivable		Supplies	
(a) 50,000	21,000 (b)	(c) 15,260	1,000 (i)	(a) 2,000	
(d) 13,200	840 (g)			(f) 3,210	
(e) 1,500	1,700 (h)				
(i) 1,000	4,000 (j)				
	3,600 (k)				
	500 (m)				
34,060	14,260			5,210	

Barns		Land		Prepaid Insurance	
(a) 100,000		(a) 60,000		(k) 3,600	
(b) 42,000					
142,000		60,000		3,600	

Accounts Payable		Unearned Revenue		Long-term Note Payable	
(h) 1,700	3,210 (f)		1,500 (e)		21,000 (b)
	1,200 (i)				
	2,710		1,500		21,000

Contributed Capital		Retained Earnings	
	212,000 (a)	(m) 500	
	212,000	500	

Animal Care Revenue		Rental Revenue	
	15,260 (c)		13,200 (d)
	15,260		13,200

Utilities Expense		Wages Expense	
(g) 840		(j) 4,000	
(l) 1,200			
2,040		4,000	

AP3-4. (continued)

Req. 3

GREEN STABLES, INC.
Income Statement (unadjusted)
For the Month Ended April 30, 20C

Revenues:	
Animal care revenue	\$ 15,260
Rental revenue	13,200
Total revenues	<u>28,460</u>
Costs and expenses:	
Wages expense	4,000
Utilities expense	2,040
Total costs and expenses	<u>6,040</u>
Net Income	\$ 22,420

GREEN STABLES, INC.
Statement of Retained Earnings (unadjusted)
For the Month Ended April 30, 20C

Retained earnings, April 1, 20C	\$ 0
Net income	22,420
Dividends	(500)
Retained earnings, April 30, 20C	<u>\$ 21,920</u>

AP3-4. (continued)

GREEN STABLES, INC.
Balance Sheet (unadjusted)
At April 30, 20C

Assets	
Current assets:	
Cash	\$ 34,060
Accounts receivable	14,260
Supplies	5,210
Prepaid insurance	3,600
Total current assets	57,130
Barns	142,000
Land	60,000
Total Assets	<u>\$259,130</u>
Liabilities	
Current liabilities:	
Accounts payable	\$ 2,710
Unearned revenue	1,500
Total current liabilities	4,210
Note payable	21,000
Total Liabilities	25,210
Stockholders' Equity	
Contributed Capital	212,000
Retained Earnings	21,920
Total Stockholders' Equity	<u>233,920</u>
Total Liabilities and Stockholders' Equity	<u>\$259,130</u>

Req. 4

Date: (today's date)
To: Shareholders of Green Stables, Inc.
From: (your name)

After analyzing the effects of transactions for Green Stables, Inc. for April, the company has realized a profit of \$22,420. This is 79% of sales revenue. However, this is based on unadjusted amounts. There are several additional expenses that will decrease the net income amount. These include depreciation of the barns, supplies, insurance, interest, and wages. Therefore, the company appears to have earned a small profit in its first month. It would be useful to prepare a budget of income and of cash flows each month for the upcoming year to decide whether the positive income and cash flows are likely to continue in the future.

AP3-4. (continued)

Req. 5

$$20D: \text{Asset Turnover} = \frac{\text{Sales}}{\text{Average Total Assets}} = \frac{\$400,000}{(\$300,000 + \$320,000) \div 2} = \frac{\$400,000}{\$310,000} = 1.29$$

$$20E: \text{Asset Turnover} = \frac{\text{Sales}}{\text{Average Total Assets}} = \frac{\$450,000}{(\$320,000 + \$480,000) \div 2} = \frac{\$450,000}{\$400,000} = 1.13$$

Under your management, the asset turnover ratio appears to be decreasing over time. The ratio for 20E is lower than it otherwise would have been given the shareholders' decision to build a riding arena. The loans and building required have increased the average total assets used and therefore decreased the turnover ratio. In addition, with the new facilities, revenues should increase in the future. Based on this rationale, you should be promoted.

AP3-5.

GREEN STABLES, INC.
Statement of Cash Flows
For the Month Ended April 30, 20C

Operating Activities	
Cash received from customers (\$13,200 + 1,500 + 1,000)	\$15,700
Cash paid to employees	(4,000)
Cash paid to suppliers (\$840 + 1,700 + 3,600)	(6,140)
Total cash provided by operating activities	<u>5,560</u>
Investing Activities	
Purchase of barns	(21,000)
Total cash used in investing activities	<u>(21,000)</u>
Financing Activities	
Proceeds from share issuance	50,000
Dividends paid	(500)
Total cash provided by financing activities	<u>49,500</u>
Increase in cash	34,060
Beginning cash balance	0
Ending cash balance	<u>\$34,060</u>

AP3-6.

Req. 1 and 2 (in millions)

ASSETS:

<u>Cash</u>	<u>Marketable Securities</u>	<u>Accounts Receivable</u>
1,157 (b) 500 1,122 (f) 12 (h) 11 (i) 8 (j) <u>502</u>	618	8,073 (d) 5 <u>7,578</u>

<u>Inventories</u>	<u>Prepaid Expenses</u>	<u>Investments</u>
5,541 (g) 23 <u>5,563</u>	1,071 (h) 12 <u>1,083</u>	5,394 <u>5,394</u>

<u>Property & Equipment</u>	<u>Intangibles (net)</u>
63,425 (a) 150 <u>63,575</u>	2,583 (j) 8 <u>2,591</u>

LIABILITIES:

<u>Accounts Payable</u>	<u>Notes Payable</u>	<u>Income Tax Payable</u>
13,391 150 (a) 23 (g) <u>13,564</u>	3,858	(f) 1,122 2,244 <u>1,122</u>

<u>Other Debt</u>
(j) 10 30,954 <u>30,944</u>

SHAREHOLDERS' EQUITY:

<u>Shareholders' Equity</u>
37,415 <u>?</u>

REVENUES AND EXPENSES:

<u>Sales Revenue</u>	<u>Cost of Sales</u>	<u>Wages Expense</u>
5 (d) <u>5</u>	(d) 1 <u>1</u>	(e) 1 <u>1</u>

<u>Utilities Expense</u>	<u>Interest Expense</u>
(c) 1 <u>1</u>	(i) 1 <u>1</u>

AP3-6. (continued)

Req. 3

EXXON CORPORATION
Income Statement (unadjusted)
For the Month Ended January 31, 20D
(in millions)

Revenues:	
Sales revenue	\$ 5
Costs and expenses:	
Cost of sales	\$ 1
Wage expense	1
Utilities expense	1
Interest expense	1
Total costs and expenses	<u>\$ 4</u>
Net Income	<u>\$ 1</u>

EXXON CORPORATION
Statement of Stockholders' Equity (unadjusted)
For the Month Ended January 31, 20D
(in millions)

Stockholders' equity, January 1, 20D	\$ 37,415
Stock issuance	0
Net income	1
Dividends	0
Stockholders' equity, January 31, 20D	<u>\$ 37,416</u>

AP3-6. (continued)

EXXON CORPORATION
Balance Sheet (unadjusted)
at January 31, 20D
(in millions)

Assets	
<i>Current assets:</i>	
Cash	\$ 502
Marketable securities	618
Accounts receivable	7,578
Inventories	5,563
Prepaid expenses	1,083
<i>Total current assets</i>	<u>15,344</u>
Investments	5,394
Property & equipment (net)	63,575
Intangibles (net)	2,591
Total assets	<u>\$86,904</u>
Liabilities	
<i>Current liabilities:</i>	
Accounts payable	\$13,564
Income tax payable	1,122
<i>Total current liabilities</i>	<u>14,686</u>
Notes payable	3,858
Other debt	30,944
Total liabilities	<u>49,488</u>
Shareholders' Equity	
Shareholders' equity	<u>37,416</u>
Total liabilities and shareholders' equity	<u>\$86,904</u>

AP3-6. (continued)

EXXON CORPORATION
Statement of Cash Flows
For the Month Ended January 31, 20D
(in millions)

Operating Activities	
Cash received from customers	\$ 500
Cash paid to employees	(1)
Cash paid to suppliers (= \$1+12)	(13)
Cash paid to government for taxes	(1,122)
Interest paid	(1)
Total cash used in operating activities	<u>(637)</u>
Investing Activities	
Purchase of intangible assets	(8)
Total cash used in investing activities	<u>(8)</u>
Financing Activities	
Repayment of debt	(10)
Total cash used in financing activities	<u>(10)</u>
Decrease in cash	(655)
Beginning cash balance	1,157
Ending cash balance	<u>\$ 502</u>

Req. 4

$$\text{Asset Turnover} = \frac{\text{Sales}}{\text{Average Total Assets}} = \frac{\$5}{\$87,383} = 0.00006$$

$$* (\$87,862 + \$86,904) \div 2$$

The asset turnover ratio suggests that the company obtained \$0.00006 in sales for the month for every \$1 in assets. Assuming that sales are spread equally throughout the year, the annual asset turnover would be approximately 0.0007. Compared to other examples in the text, this suggests either that Exxon is in a higher capital intensive industry (requiring extremely high levels of assets) or that Exxon is very inefficient in its use of resources. Indeed, the ratio appears low due to the low amounts used for revenues in this hypothetical month. Exxon's actual asset turnover for a recent year was 1.07.

CASES AND PROJECTS

FINANCIAL REPORTING AND ANALYSIS CASES

CP3-1.

- The largest expense on the 1999 income statement is the "cost of sales" for \$129,625,000. As goods were sold throughout the year, the related expense was incurred and recorded by debiting "cost of sales" and crediting "inventory."
- Interest receivable (+A)..... 2,126
Interest income (+R → +SE)..... 2,126
- Assuming all net sales are on credit, Urban Outfitters collected \$208,624 thousand from customers.

Accounts Receivable	
Beginning	4,497
Sales	208,969
Ending	<u>4,824</u>

Collections

- Over the life of the business, total earnings will equal net cash flow. However, for any given year, the assumption that net earnings is equal to cash inflows is not valid. Accrual accounting requires recording revenues when earned and expenses when incurred, not necessarily when cash is received or paid. There may be revenues recorded as earnings that are not yet received in cash. In the same way, there may be cash outflows as prepayments of expenses that are not recorded as expenses until incurred, such as inventories, insurance, and rent.
- An income statement reports the financial performance of a company over a period of time in terms of revenues, gains, expenses, and losses. A balance sheet or statement of financial position lists the economic resources owned by an entity and the claims to those resources from creditors and investors at a point in time. They are linked through retained earnings.
-

$$\text{Asset Turnover} = \frac{\text{Sales}}{\text{Average Total Assets}} = \frac{\$208,969}{(\$107,424 + \$133,363) \div 2} = \frac{\$208,969}{\$120,393.5} = 1.74$$

The asset turnover ratio measures the sales generated per dollar of assets. Urban Outfitters generated \$1.74 of sales per \$1 of assets.

CP3-2.

- American Eagle Outfitters calls its income statement the "Consolidated Statements of Operations." Urban Outfitters calls its income statement the "Consolidated Statements of Income." "Consolidated" implies that the statements of two or more companies (usually the company and its majority-owned subsidiaries) have been combined into a single statement for presentation.
- American Eagle Outfitters had the higher net income of \$54,118,000 for 1999, compared to Urban Outfitters' net income of \$15,760,000 for 1999.
- American Eagle Outfitters cites its focus on marketing initiatives to expand non-store (internet and catalogue) distribution of merchandise, as well as the addition of new stores, existing store upgrades, and a focus on inventory turnover (a specific form of asset turnover). Urban Outfitters cites higher numbers of transactions and increase in average sales prices as the reason for its increase in comparable store net sales, with additional increases due to new store openings and a slight increase in non-store sales.

	American Eagle Outfitters	Urban Outfitters
Asset Turnover = $\frac{\text{Sales}}{\text{Average Total Assets}}$	$\frac{\$587,600}{\$177,871.5^*} = 3.30$	$\frac{\$208,969}{\$120,393.5^{**}} = 1.74$

$$* (\$144,795 + \$210,948) \div 2$$

$$** (\$107,424 + \$133,363) \div 2$$

American Eagle Outfitters is utilizing its assets more effectively to generate sales than is Urban Outfitters. American Eagle Outfitters has the higher asset turnover ratio, 3.30 compared to Urban Outfitters' 1.74. This may be because of American Eagle Outfitters' greater emphasis on Internet and catalogue sales.

	Industry Average	American Eagle Outfitters	Urban Outfitters
Asset Turnover =	2.55	3.30	1.74

American Eagle Outfitters' asset turnover ratio is above the industry average; Urban Outfitters' asset turnover ratio is below the industry average. On average, American Eagle Outfitters is utilizing assets to generate sales more effectively than their competitors. On average, Urban Outfitters is utilizing assets to generate sales less effectively than their competitors.

CP3-2. (continued)

6. American Eagle Outfitters collected \$59,821,000 in cash from operations, an increase of 129% (calculated as $(59,821 - 26,168) \div 26,168$). Urban Outfitters collected \$27,244,000 in cash from operations, a increase of 44% (calculated as $(27,244 - 18,873) \div 18,873$).
7. American Eagle Outfitters paid \$41,706,000 in taxes (Note 1, Supplemental Disclosures of Cash Flow Information). Urban Outfitters paid \$8,843,000 in taxes (Note 15).
8. Urban Outfitters segments its operations into retail operations and wholesale operations (Note 7). American Eagle Outfitters reports that segment reporting does not currently have a significant impact on its financial statement disclosures (Note 2).

CP3-3.

Req. 1

$$1996: \text{Asset Turnover} = \frac{\text{Sales}}{\text{Average Total Assets}} = \frac{\$340,323}{(\$134,484 + \$95,363) \div 2} = \frac{\$340,323}{\$114,923.5} = 2.96$$

$$1997: \text{Asset Turnover} = \frac{\text{Sales}}{\text{Average Total Assets}} = \frac{\$326,404}{(\$95,363 + \$110,438) \div 2} = \frac{\$326,404}{\$102,900.5} = 3.17$$

$$1998: \text{Asset Turnover} = \frac{\text{Sales}}{\text{Average Total Assets}} = \frac{\$405,713}{(\$110,438 + \$144,795) \div 2} = \frac{\$405,713}{\$127,616.5} = 3.18$$

$$1999: \text{Asset Turnover} = \frac{\text{Sales}}{\text{Average Total Assets}} = \frac{\$587,600}{(\$144,795 + \$210,948) \div 2} = \frac{\$587,600}{\$177,871.5} = 3.30$$

Req. 2

$$1996: \text{Financial Leverage} = \frac{\text{Average Total Assets}}{\text{Average Stockholders' Equity}} = \frac{\$(134,484 + 95,363) \div 2}{\$60,864} = \frac{\$114,923.5}{\$60,864} = 1.89$$

$$1997: \text{Financial Leverage} = \frac{\text{Average Total Assets}}{\text{Average Stockholders' Equity}} = \frac{\$(95,363 + 110,438) \div 2}{\$67,426} = \frac{\$102,900.5}{\$67,426} = 1.53$$

$$1998: \text{Financial Leverage} = \frac{\text{Average Total Assets}}{\text{Average Stockholders' Equity}} = \frac{\$(110,438 + 144,795) \div 2}{\$80,932} = \frac{\$127,616.5}{\$80,932} = 1.58$$

$$1999: \text{Financial Leverage} = \frac{\text{Average Total Assets}}{\text{Average Stockholders' Equity}} = \frac{\$(144,795 + 210,948) \div 2}{\$121,002.5} = \frac{\$177,871.5}{\$121,002.5} = 1.47$$

CP3-3. (continued)

Req. 3

American Eagle Outfitters' asset turnover ratio is increasing, indicating higher sales per dollar of assets over time. Its financial leverage ratio is decreasing, indicating that American Eagle is financing its assets with lower levels of debt than in prior years. Together, the two ratios indicate that American Eagle is generating higher sales per dollar of asset and that its shareholders are able to enjoy a greater portion of the benefits from those higher sales.

CP3-4.

Req. 1

The SEC is the Securities and Exchange Commission, the U.S. government agency that determines the financial statements that public companies must provide to stockholders and the measurement rules that they must use in producing those statements.

Req. 2

Under the revenue realization principle, revenues are recognized when (1) the earnings process is complete or nearly complete, (2) an exchange has taken place, and (3) collection is probable.

Req. 3

Sensormatic held the books open (did not close them) a little longer at the end of each quarter, allowing some of next quarter's sales into the current quarter to meet earnings targets. This violates the concept of recording revenues and expenses in the proper period. The sales recorded after the end of the quarter did not take place in the quarter being reported.

Donkenny created false invoices used to record sales. This violates the revenue recognition rule that an exchange takes place. There were no exchanges with the customers being invoiced.

Sunbeam recorded sales but did not ship them to the customers. Thus, no cost of goods sold was recorded. This violates the matching principle.

CP3-5.

Req. 1

a. and b. given as examples in the textbook.

c. Cash increased \$15,000, Accounts Receivable increased \$12,000, and Paint Revenue increased \$27,000. Therefore, transaction (c) was delivery of painting services for \$27,000; \$15,000 was received in cash and the rest was on account.

d. Cash decreased \$14,000, Land increased \$18,000, and Note Payable increased \$4,000. Therefore, transaction (d) was a purchase of land for \$18,000; \$14,000 was paid in cash and an interest-bearing note was signed for the remainder.

e. Cash decreased \$10,000, Accounts Payable increased \$3,000, Supplies Expense increased \$5,000, and Wages Expense increased \$8,000. Therefore, transaction (e) was purchase and use of \$5,000 of supplies and \$8,000 of employee labor. \$10,000 was paid in cash and \$3,000 is owed.

f. Accounts Receivable increased \$14,000, and Paint Revenue increased \$14,000. Therefore, transaction (f) was a sale of painting services made on account.

g. Cash decreased \$4,000, and Retained Earnings decreased \$4,000. Therefore, transaction (g) was declaration and payment of a dividend of \$4,000.

h. Cash decreased \$11,000, Accounts Payable increased \$7,000, Supplies Expense increased \$3,000, and Wages Expense increased \$15,000. Therefore, transaction (h) was purchase and use of supplies of \$3,000 and employee labor of \$15,000. \$11,000 was paid in cash, and \$7,000 is owed.

i. Cash decreased by \$5,000, and Accounts Payable decreased by \$5,000. Therefore, transaction (i) is a payment made on account.

j. Cash increased \$16,000, Accounts Receivable decreased \$16,000. Therefore, transaction (j) was the receipt of payments from customers.

CP3-5. (continued)

Req. 2

WILSEY PAINTING SERVICE COMPANY
Income Statement (unadjusted)
For the Month Ended January 31, 20A

Revenues:	
Paint revenue	\$41,000
Costs and expenses:	
Supplies expense	8,000
Wage expense	23,000
Total costs and expenses	<u>31,000</u>
Net Income	<u>\$10,000</u>

WILSEY PAINTING SERVICE COMPANY
Statement of Retained Earnings (unadjusted)
For the Month Ended January 31, 20A

Retained earnings, January 20, 20A	\$ 0
Net income	10,000
Dividends	(4,000)
Retained earnings, January 31, 20A	<u>\$ 6,000</u>

(j) O +16,000

CP3-5. (continued)

WILSEY PAINTING SERVICE COMPANY
Balance Sheet (unadjusted)
At January 31, 20A

Assets	
<i>Current assets:</i>	
Cash	\$ 57,000
Accounts receivable	10,000
Total current assets	67,000
Office fixtures	20,000
Land	18,000
Total assets	<u>\$105,000</u>
Liabilities	
<i>Current liabilities:</i>	
Accounts payable	\$ 5,000
Total current liabilities	5,000
Notes payable	19,000
Total liabilities	24,000
Shareholders' Equity	
Contributed capital	75,000
Retained earnings	6,000
Total shareholders' equity	81,000
Total liabilities and shareholders' equity	<u>\$105,000</u>

Req. 3

Transaction	Operating, Investing, or Financing Effect	Direction and Amount of the Effect
(a)	F	+75,000
(b)	I	-5,000
(c)	O	+15,000
(d)	I	-14,000
(e)	O	-10,000
(f)	None	Noncash transaction
(g)	F	-4,000
(h)	O	-11,000
(i)	O	-5,000

CP3-6.

The letter to your cousin should include the following:

Auditors' Opinion

Volkswagen's 20B financial statements have been prepared on a German GAAP basis which is legally established. The company received an unqualified opinion from the auditors. There will be many similarities to U. S. GAAP based on the similarities in economic and political environments of the two countries. Differences that may exist are, therefore, most likely the result of any differences in these same environments.

Asset Section of the Balance Sheet

The similarities in the asset section of the Volkswagen balance sheet are primarily in the account titles used. Many account titles appear to be the same as those used by U. S. companies, such as intangible assets, leasing and rental assets, inventories, cash, receivables, and prepaid and deferred charges.

The obvious differences in the asset section of the balance sheet are as follows:

- * The amounts are reported in German Deutsch Marks.
- * The order of the accounts is backwards. That is, cash is at the bottom of the asset list while long-term assets are at the top.
- * Many account titles need additional clarification to determine their similarity to U. S. account titles. These include:
 - Financial assets -- these are the company's investment in associated companies that are not consolidated with the other Volkswagen subsidiaries.
 - Tangible assets -- these are property, plant, and equipment.
 - Securities -- these are short-term investments.

Income Statement

Most of the account titles are similar to those used by U. S. companies. There are three points that appear to be most dissimilar:

- (1) Results from participations -- this is the income earned from investments.
- (2) Interest results -- this is the interest revenue earned minus interest expense incurred.
- (3) Write-down of financial assets and securities, classified as current assets -- this is the decline in the market value of these investments.

To understand most fully the similarities and dissimilarities between German and U. S. automakers' financial statements, investors, potential investors, creditors, and financial analysts should study the footnotes (which were not provided) in depth. These would reveal differences in measuring and reporting financial information. Before investing, your cousin should understand the industry and its economic, political, technological, and social issues, and compute various ratio and trend analyses on the company in light of these issues.

CRITICAL THINKING CASES

CP3-7.

Req. 1

Martinez used the cash basis of accounting. We can infer this from his references to income *collected* rather than earned, expenses *paid* rather than incurred, and supplies *purchased* rather than used. Accrual accounting should be used because it correctly assigns revenues and expenses to the accounting period in which they are earned or incurred.

Req. 2

MARTINEZ COMPANY	
(a)	Income Statement (unadjusted)
(b)	For the Year Ended December 31, 20A
(c)	Revenues:
(d)	Service fees revenue \$ 87,000
(e)	Cash dividends
(f)	Costs and expenses:
(g)	Operating expenses 61,000
(h)	Supplies expense 2,500
(i)	Loss from theft 500
(j)	Total costs and expenses 64,000
(k)	Net Income \$ 23,000

- (a) Use the standard title.
 (b) Date to indicate time period covered.
 (c) Use appropriate title.
 (d) Use accrual figure -- revenue earned, rather than cash collected.
 (e) Exclude the dividends because the stock is owned by Tom and not the company -- apply the separate entity assumption.
 (f) Use appropriate title.
 (g) Use accrual figure -- expenses incurred, not cash paid.
 (h) Expense is supplies used, \$2,500; the \$700 is still an asset until used.
 (i) Stolen property should be recorded as a loss for the amount not covered by insurance.
 (j) Use appropriate caption.
 (k) Use standard terminology.

CP3-7. (continued)

MARTINEZ COMPANY
Balance Sheet (unadjusted)
At December 31, 20A

Assets	
Current assets:	
Cash	\$ 29,300
Accounts receivable	52,000
Supplies	700
Total current assets	82,000
Building	21,000
Land	20,000
Tools and equipment	18,000
Total assets	\$141,000
Liabilities	
Current liabilities:	
Accounts payable	\$ 39,000
Unearned revenue	20,000
Total current liabilities	59,000
Shareholders' Equity	
Contributed capital	59,000
Retained earnings	23,000
Total shareholders' equity	82,000
Total liabilities and shareholders' equity	\$141,000

CP3-7. (continued)

MARTINEZ COMPANY
Statement of Cash Flows
For the Year Ended December 31, 20A

Operating Activities	
Cash received from customers	\$55,000
Cash paid to suppliers (\$22,000+3,200+500)	(25,700)
Total cash provided by operating activities	29,300
Investing Activities	
Purchase of tools and equipment	(1,000)
Total cash used in investing activities	(1,000)
Financing Activities	
Proceeds from share issuance	1,000
Total cash provided by financing activities	1,000
Increase in cash	\$29,300
Beginning cash balance	0
Ending cash balance	\$29,300

Req. 3

The above statements do not yet take into account most year-end adjustments, including depreciation and income taxes. The adjusting entry for income taxes is especially important because of the implication for future cash flows.

The statements also record the building, land, and tools and equipment originally contributed in exchange for shares in the new company at their market value at that time. Their current market value at year-end is more relevant to a loan decision. Current market values for the building and land are provided (\$32,000 and \$30,000, respectively), but the current value of the tools and equipment is also needed.

The stock in ABC Industrial is owned by Tom and not the company. However, it may be used as collateral if Tom is willing to sign an agreement pledging personal assets as collateral for the loan. This is a common requirement for small start-up businesses. Other of Tom's personal assets could also be considered for collateral.

Lastly, pro forma financial statements (or budgets) outlining the expected revenues, expenses, and cash flows from the expanded business would be helpful to gauge its viability.

CP3-7. (continued)

Req. 4

(today's date)

Dear Mr. Martinez:

We regret to inform you that your request for a \$100,000 loan has been denied.

Your current business appears profitable and appears to generate sufficient cash to maintain operations, even once additional expenses, such as income taxes, are considered. However, pro forma financial statements (or budgets) outlining the expected revenues, expenses, and cash flows from the expanded business would be needed to gauge its future viability.

We also require that there be sufficient collateral pledged against the loan before we can consider it. A loan of this size would increase your company's size by over 70% of its current asset base. The current market value of the building and land held by the company are insufficient as collateral. The current market value of the tools and equipment may provide additional collateral, if you provide us with this information. Your personal investments may also be considered viable collateral if you are willing to sign an agreement pledging these assets as collateral for the loan. This is a common requirement for small start-up businesses.

If you would like us to reconsider your application, please provide us with the pro forma financial statements and with the current market values of any assets you would pledge as collateral.

Regards,
 (your name)

Loan Application Department,
 Your Bank

CP3-8.

This type of ethical dilemma occurs quite frequently. The situation is difficult personally because of the possible repercussions to you by your boss, Mr. Lynch, if you do not meet his request. At the same time, the ethical and professional response is to follow the revenue recognition rule and account for the cash collection as deferred revenue (as was done). To record the collection as revenue overstates income in the current period.

In the short run, Mr. Lynch would benefit by receiving a larger bonus. You also benefit in the short run because you would not experience any negative repercussions from your boss. However, there is the risk that sometime in the future, perhaps through an audit, the error will be found. At that point, both you and Mr. Lynch could be implicated in a fraud. In addition, this may be the first instance where you are being asked to account for a transaction in violation of accepted principles or company policies. There is a very strong possibility Mr. Lynch may ask you for additional favors in the future if you demonstrate your willingness at this point.

In the larger picture, shareholders are harmed by the misleading income figures by relying on them to purchase stock at inflated prices. In addition, creditors may lend funds to the insurance company based on the misleading information. The negative impact of the discovery of misleading financial information will cause stock prices to fall, causing shareholders to lose on their investment. Creditors will be concerned about future debt repayment. You will also experience diminished self-respect because of the violation of your integrity.

Managers are agents for shareholders. To act in ways to the benefit of the manager at the detriment of the shareholders is inappropriate. Therefore, the ethically correct response is to fail to comply with Mr. Lynch's request. Explaining your position to Mr. Lynch will not be easy. You may want to express that you understand the reason for his request, but cannot ethically or professionally comply.

FINANCIAL REPORTING AND ANALYSIS PROJECTS

CP3-9 through CP3-13.

The solutions to these cases will depend on the company and/or accounting period selected for analysis.

Chapter 4

The Adjustment Process and Financial Statements

ANSWERS TO QUESTIONS

- The accounting information processing cycle is a series of sequential phases (or steps) used in an accounting system to process data from the initial transactions to the end products—the periodic financial statements.
- Phase 1:** Perform transaction analysis, record journal entries, post amounts to the general ledger (T-accounts).
Phase 2: Prepare a trial balance, analyze adjustments, prepare financial statements, record and post adjusting journal entries and closing entries.
- A trial balance is a list of the individual accounts, usually in financial statement order, with their debit or credit balances. It is used to provide a check on the equality of the debits and credits.
- Adjusting entries are made at the end of the accounting period to record all revenues and expenses that have not been recorded but belong in the current period. They update the balance sheet and income statement accounts at the end of the accounting period.

The four different types are adjustments for:

- Deferred expenses – previously recorded assets that need to be adjusted at the end of the period to reflect incurred expenses (e.g., prepaid insurance must be adjusted for the portion of insurance expense incurred in the current period).
- Deferred revenues – previously recorded liabilities that need to be adjusted at the end of the period to reflect earned revenues (e.g., deferred revenue must be adjusted for the portion of sales revenues earned in the current period).
- Accrued revenues – revenues that have been earned by the end of the accounting period but which will be collected in a future accounting period (e.g., recording interest receivable for interest earned but not yet collected).
- Accrued expenses – expenses that have been incurred by the end of the accounting period but which will be paid in a future accounting period (e.g., recording an accrued liability for utilities used during the period but which has not yet been paid).

- Estimated residual value is the amount expected to be received when an asset finally is sold or disposed of by the user. It sometimes is called scrap or salvage value.

It is important in measuring depreciation expense because the residual value must be deducted from the cost of the asset to derive the amount to be depreciated. It is deducted because there is an expected recovery of some of the cost at the end of the asset's useful life. Therefore, no allocation (depreciation) of this residual value should be made during the life of the asset.

- A contra-asset is an account related to an asset that is an offset or reduction to the asset's balance. Accumulated Depreciation is a contra-account to the equipment and buildings accounts.
- Adjusting entries are recorded in the journal on the last day of the accounting period because (a) they record economic effects not adequately measured by the regular entries up to that date and (b) they represent economic events in the same sense as the other transactions. They are necessary to measure income properly, correct errors, and provide for adequate valuation of balance sheet accounts. Adjusting entries are posted to the ledger to restate the balances of certain income statement and balance sheet accounts.
- The net income on the income statement is included in determining ending retained earnings on the balance sheet. The change in the cash account on the balance sheet is analyzed and categorized on the statement of cash flows into cash from operating activities, investing activities, and financing activities.
- (a) Income statement: (Revenues + Gains) - (Expenses + Losses) = Net Income
(b) Balance sheet: Assets = Liabilities + Stockholders' Equity
(c) Statement of cash flows: Changes in cash for the period = Cash from Operations ± Cash from Investing Activities ± Cash from Financing Activities
(d) Statement of stockholders' equity: Ending Stockholders' Equity = Beginning Contributed Capital + Stock Issuances - Stock Repurchases + Beginning Retained Earnings + Net Income - Dividends Declared
- Adjusting entries have no effect on cash. For deferrals, cash was received or paid at some point in the past. For accruals, cash will be received or paid in a future accounting period. At the time of the adjusting entry, there is no cash being received or paid.
- Earnings per share = Net Income ÷ weighted average number of shares of stock outstanding during the period.

Earnings per share measures the average amount of net income for the year attributable to one share of common stock.

- Net profit margin = Net income ÷ net sales

The net profit margin measures how much of every sales dollar generated during the period is profit.

- An *unadjusted* trial balance is prepared after all current transactions have been journalized and posted to the ledger. It does not include the effects of the adjusting entries. The basic purpose of an unadjusted trial balance is to check the equalities of the accounting model (particularly, Debits = Credits) and to provide the data in a form convenient for further processing in the accounting information processing cycle.

In contrast, an *adjusted* trial balance is prepared after the effects of all of the adjusting entries have been applied to the corresponding (prior) unadjusted trial balance amounts. The basic purpose of an adjusted trial balance is to insure that accuracy has been attained in applying the effect of the adjusting entries. The adjusted trial balance provides a second check in the model equalities (primarily Debits = Credits). It also provides data in a form convenient for further processing.

- Closing entries are made at the end of the accounting period to transfer the balances in the temporary income statement accounts to retained earnings. The closing entries reduce the revenue, gain, expense, and loss accounts to a zero balance so that they can be used for the accumulation process during the next period. Closing entries must be entered into the system through the journal and posted to the ledger accounts to state properly the temporary and permanent account balances (i.e., zero balances in the temporary accounts).
- (a) Permanent accounts – balance sheet accounts; that is, the asset, liability, and contributed capital accounts (these are not closed at the end of each period).
(b) Temporary accounts – income statement accounts; that is, revenues, gains, expenses, and losses (these are closed at the end of each period).
(c) Real accounts – another name for permanent accounts.
(d) Nominal accounts – another name for temporary accounts.

16. The income statement accounts are closed at the end of the accounting period because, in effect, they are temporary subaccounts to retained earnings (i.e., a part of stockholders' equity). They are used only for accumulation during the accounting period. When the period ends, these accumulated accounts must be transferred (closed) to retained earnings. The closing process serves:

- (1) to correctly state retained earnings, and
- (2) to clear out the balances of the temporary accounts for the year just ended so that these subaccounts can be used again during the next period for accumulation and classification purposes.

Balance sheet accounts are not closed at the end of the period because they reflect permanent accumulated balances of assets, liabilities, and stockholders' equity. Permanent accounts show the entity's financial position at the end of the period and are the beginning amounts for the next period.

17. A post-closing trial balance is a listing taken from the ledger after the adjusting and closing entries have been journalized and posted. It is not a necessary part of the accounting information processing cycle but it is useful because it demonstrates the equality of the debits and credits in the ledger after the closing entries have been journalized and posted.

Authors' Recommended Solution Time
(Time in minutes)

Mini-exercises		Exercises		Problems		Alternate Problems		Cases and Projects	
No.	Time	No.	Time	No.	Time	No.	Time	No.	Time
1	5	1	10	1	15	1	15	1	25
2	3	2	10	2	20	2	20	2	25
3	3	3	10	3	20	3	20	3	25
4	5	4	15	4	20	4	20	4	25
5	5	5	10	5	20	5	20	5	40
6	5	6	20	6	25	6	25	6	45
7	5	7	20	7	30	7	30	7	35
8	5	8	20	8	30	8	30	8	50
9	5	9	15	9	60	9	60	9	*
10	5	10	20					10	*
11	4	11	10					11	*
12	3	12	20					12	*
		13	15					13	*
		14	15						
		15	20						
		16	20						
		17	20						
		18	20						
		19	10						

* Due to the nature of these cases and projects, it is very difficult to estimate the amount of time students will need to complete the assignment. As with any open-ended project, it is possible for students to devote a large amount of time to these assignments. While students often benefit from the extra effort, we find that some become frustrated by the perceived difficulty of the task. You can reduce student frustration and anxiety by making your expectations clear. For example, when our goal is to sharpen research skills, we devote class time discussing research strategies. When we want the students to focus on a real accounting issue, we offer suggestions about possible companies or industries.

MINI-EXERCISES

M4-1.

Swanson Company
Unadjusted Trial Balance
At June 30, 20B

	Debit	Credit
Cash	\$ 120	
Accounts receivable	350	
Inventories	610	
Prepaid expenses	40	
Buildings and equipment	1,400	
Accumulated depreciation		\$ 250
Land	200	
Accounts payable		200
Accrued expenses payable		150
Income taxes payable		30
Unearned fees		100
Long-term debt		1,300
Contributed capital		300
Retained earnings		120
Sales revenue		2,400
Interest income		50
Cost of sales	820	
Salaries expense	660	
Rent expense	400	
Depreciation expense	110	
Interest expense	80	
Income taxes expense	110	
Totals	\$ 4,900	\$ 4,900

M4-2. (1) D; (2) B; (3) D; (4) C; (5) A; (6) C; (7) B; (8) A.

M4-3. (1) A; (2) B; (3) C; (4) D.

M4-4.

- (a) Deferred rent revenue (-L)..... 300
Rent revenue (+R)..... 300
To record one month of rent revenue earned (\$900 ÷ 3 months).
- (b) Insurance expense (+E → -SE)..... 600
Prepaid insurance (-A)..... 600
To record six months of insurance expense (\$2,400 × 6/24).
- (c) Depreciation expense (+E → -SE)..... 2,000
Accumulated depreciation (+XA → -A)..... 2,000
To record annual depreciation expense [(\$12,000 - \$2,000) ÷ 5 years].

M4-5.

Transaction	Balance Sheet			Income Statement		
	Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	Net Income
a.	NE	-300	+300	+300	NE	+300
b.	-600	NE	-600	NE	+600	-600
c.	-2,000	NE	-2,000	NE	+2,000	-2,000

M4-6.

- (a) Utilities expense (+E → -SE)..... 220
Accrued utilities payable (+L)..... 220
To record utilities expense incurred but not yet paid.
- (b) Wages expense (+E → -SE)..... 3,600
Accrued wages payable (+L)..... 3,600
To record wages expense incurred but not yet paid, calculated as 10 employees × 3 days × \$120 each per day.
- (c) Interest receivable (+A)..... 120
Interest income (+R)..... 120
To record interest earned but not yet collected, calculated as \$3,000 × 12% × 4/12.

M4-7.

Transaction	Balance Sheet			Income Statement		
	Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	Net Income
a.	NE	+220	-220	NE	+220	-220
b.	NE	+3,600	-3,600	NE	+3,600	-3,600
c.	+120	NE	+120	+120	NE	+120

M4-8.

LINER COMPANY
Income Statement
For the Year Ended December 31, 20C

Revenues:		
Sales revenue		\$ 42,000
Interest revenue		120
Rent revenue		300
Total revenues		42,420
Costs and expenses:		
Wages expense		21,600
Depreciation expense		2,000
Utilities expense		220
Insurance expense		600
Rent expense		9,000
Income tax expense		2,900
Total costs and expenses		36,320
Net Income		\$ 6,100
Earnings per share*		\$20.33

* calculated as $\$6,100 \div [(100 + 500) \div 2] = \$6,100 \div 300 = \$20.33$

M4-9.

LINER COMPANY
Statement of Stockholders' Equity
For the Year Ended December 31, 20C

	Contributed Capital	Retained Earnings	Total Stockholders' Equity
Balance, January 1, 20C	\$ 400	\$ 1,000	\$ 1,400
Share issuance	2,000		2,000
Net income		6,100	6,100
Dividends		0	0
Balance, December 31, 20C	<u>\$ 2,400</u>	<u>\$ 7,100</u>	<u>\$ 9,500</u>

M4-10.

LINER COMPANY
Balance Sheet
At December 31, 20C

Assets		
Cash		\$ 1,500
Accounts receivable		2,000
Interest receivable		120
Prepaid insurance		1,800
Note receivable		3,000
Equipment (net of accumulated depreciation, \$2,000)		10,000
Total Assets		<u>\$ 18,420</u>
Liabilities		
Accounts payable		\$ 1,600
Accrued expenses payable		3,820
Income taxes payable		2,900
Deferred rent revenue		600
Total Liabilities		8,920
Stockholders' Equity		
Contributed Capital		2,400
Retained Earnings		7,100
Total Stockholders' Equity		9,500
Total Liabilities and Stockholders' Equity		<u>\$ 18,420</u>

The adjustments in M4-4 and M4-6 have no effect on the operating, investing, and financing activities on the statement of cash flows because no cash is paid or received at the time of the adjusting entries.

M4-11.

Revenues:		
Sales revenue		\$ 42,000
Interest revenue		120
Rent revenue		300
Total revenues		42,420
Costs and expenses:		
Wages expense		21,600
Depreciation expense		2,000
Utilities expense		220
Insurance expense		600
Rent expense		9,000
Income tax expense		2,900
Total costs and expenses		36,320
Net Income		\$ 6,100

Net profit margin = Net income ÷ Net Sales = $\$6,100 \div \$42,000 = 14.5\%$

The primary revenue source for this company is from sales revenue. Interest revenue and rent revenue are not included in the denominator because they are not primary revenue sources.

M4-12.

Sales revenue (-R)	42,000	
Interest revenue (-R)	120	
Rent revenue (-R)	300	
Retained earnings (+SE)		42,420
Retained earnings (-SE)	36,320	
Wages expense (-E)		21,600
Depreciation expense (-E)		2,000
Utilities expense (-E)		220
Insurance expense (-E)		600
Rent expense (-E)		9,000
Income tax expense (-E)		2,900

EXERCISES

E4-1.

Latta Marketing Consultants, Inc.
Unadjusted Trial Balance
At September 30, 20A

	Debit	Credit
Cash	\$ 173,000	
Accounts receivable	225,400	
Supplies inventory	12,200	
Prepaid expenses	10,200	
Investments	145,000	
Building and equipment	323,040	
Accumulated depreciation Land		60,000
Accounts payable		86,830
Accrued expenses payable		25,650
Unearned consulting fees		32,500
Income taxes payable		2,030
Notes payable		160,000
Contributed capital		233,370
Retained earnings *		145,510
Consulting fees earned		2,564,200
Investment income		10,800
Wages and benefits expense	1,590,000	
Utilities expense	25,230	
Travel expense	23,990	
Rent expense	152,080	
Professional development expense	18,600	
Interest expense	17,200	
Other operating expenses	188,000	
General and administrative expense	320,050	
Gain on sale of land		5,000
Totals	<u>\$3,283,990</u>	<u>\$3,283,990</u>

* Since debits are supposed to equal credits in a trial balance, the balance in Retained Earnings is determined as the amount in the credit column necessary to make debits equal credits (a "plugged" figure).

E4-2.

Req. 1

The following deferral accounts may need to be adjusted at December 31, 20A:

<u>Balance sheet account</u>	<u>Related income statement account</u>
Prepaid expenses	Various expense accounts (e.g., supplies expense, insurance expense, rent expense)
Accumulated depreciation	Depreciation expense
Intangible assets	Amortization expense
Other liabilities (may contain deferred revenues)	Revenue

Req. 2

The following accounts should be reviewed and may need to be adjusted for accruals at December 31, 20A:

<u>Balance sheet account</u>	<u>Related income statement account</u>
Other assets (may contain long-term receivables)	Interest income
Accrued liabilities	Various expense accounts (e.g., wages expense)
Income taxes payable	Income tax expense
Pension obligations	Various expense accounts (e.g., pension expense)

E4-3.

Req. 1

The annual reporting period for this company is January 1 through December 31, 20A.

Req. 2 (Adjusting entries)

Both transactions are accruals because revenue has been earned and expenses incurred but no cash has yet been received or paid.

(a) December 31, 20A:

Wage expense (+E → -SE).....	6,000	
Wages payable (+L).....		6,000

To record wages earned during 20A, but not yet paid. This entry records the (a) 20A expense, and (b) 20A liability, which is necessary to conform to accrual accounting and the matching principle.

(b) December 31, 20A:

Interest receivable (+A).....	3,000	
Interest revenue (+R).....		3,000

To record interest revenue earned during 20A, but not yet collected. This entry records the (a) 20A revenue, and (b) 20A receivable, which is necessary to conform to accrual accounting and the revenue principle.

Req. 3

Adjusting entries are necessary at the end of the accounting period to ensure that all revenues earned and expenses incurred and the related assets and liabilities are measured properly. The entries above are accruals; entry (a) is an accrued expense (incurred but not yet recorded) and entry (b) is an accrued revenue (earned but not yet recorded). In applying the accrual basis of accounting, revenues should be recognized when earned and measurable and expenses should be recognized when incurred in generating revenues.

E4-4.

Req. 1

20B Income statement:

Insurance expense (\$7,200 x 4/24) = \$1,200 used.
Shipping supplies expense: (\$15,000 + \$72,000 - \$11,000) = \$76,000 used.

Req. 2

20B Balance sheet:

Prepaid insurance (\$7,200 x 20/24) = \$6,000
Shipping supplies inventory (given) = \$11,000

Req. 3

Adjusting entry (payment debited to Prepaid Insurance):

<u>Prepaid Insurance</u>			<u>Insurance Expense</u>		
9/1	7,200		AJE	1,200	
End.	6,000		End.	1,200	

Insurance expense (+E → -SE)..... 1,200
Prepaid insurance (-A)..... 1,200
To record the expiration of insurance for four months (\$300 per month).

Req. 4

Adjusting entry (payment debited to Shipping Supplies Inventory):

<u>Shipping Supplies Inventory</u>			<u>Shipping Supplies Expense</u>		
Beg.	15,000		AJE	76,000	
Purch.	72,000	AJE 76,000	AJE	76,000	
End.	11,000		End.	76,000	

Shipping supplies expense (+E → -SE)..... 76,000
Shipping supplies inventory (-A)..... 76,000
To record the use of shipping supplies for the year.

E4-5.

Transaction	Balance Sheet			Income Statement		
	Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	Net Income
E4-3 (a)	NE	+6,000	-6,000	NE	+6,000	-6,000
E4-3 (b)	+3,000	NE	+3,000	+3,000	NE	+3,000
E4-4 (a)	-1,200	NE	-1,200	NE	+1,200	-1,200
E4-4 (b)	-76,000	NE	-76,000	NE	+76,000	-76,000

E4-6.

Req. 1 and 2

- Deferred expense -- cash paid before expense is incurred.
Office supplies expense (+E → -SE)..... 550
Office supplies inventory (-A)..... 550
Supplies used in 20B (\$250 + 600 - 300 = \$550).
- Accrued expense -- expense incurred before cash is paid.
Wages expense (+E → -SE)..... 2,700
Wages payable (+L)..... 2,700
Amount is given.
- Deferred revenue -- cash received before revenue is earned.
Unearned rent revenue (-L)..... 2,200
Rent revenue (+R)..... 2,200
Rent earned in 20B (\$6,600 x 2/6)
- Accrued revenue -- revenue earned before cash is collected.
Rent receivable (+A)..... 1,040
Rent revenue (+R)..... 1,040
(\$520 x 2 months)
- Deferred expense -- cash paid for equipment before being used.
Depreciation expense (+E → -SE)..... 6,000
Accumulated depreciation, delivery equipment (+XA → -A)..... 6,000
(\$30,000 - 6,000) ÷ 4 yrs

E4-6. (continued)

f.	Deferred expense – cash paid before expense is incurred.		
	Insurance expense (+E → -SE).....	750	
	Prepaid insurance (-A).....		750
	(\$3,000 x 6/24 months)		
g.	Accrued revenue – revenue earned before cash is received.		
	Alteration accounts receivable (+A).....	750	
	Alteration shop revenue (+R).....		750
	Amount is given.		

E4-7.

Transaction	Balance Sheet			Income Statement		
	Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	Net Income
(a)	-550	NE	-550	NE	+550	-550
(b)	NE	+2,700	-2,700	NE	+2,700	-2,700
(c)	NE	-2,200	+2,200	+2,200	NE	+2,200
(d)	+1,040	NE	+1,040	+1,040	NE	+1,040
(e)	-6,000	NE	-6,000	NE	+6,000	-6,000
(f)	-750	NE	-750	NE	+750	-750
(g)	+750	NE	+750	+750	NE	+750

E4-8.

	Debit		Credit	
	Code	Amount	Code	Amount
a.	N	\$400	G	\$400
b.	A	800	I	800
c.	K	900	A	900
d.	O	1,000	E	1,000
e.	C	600	L	600
f.	Q	250	B	250
g.	P	220	H	220
h.	L	62,000	K	62,000
i.	K	420	P	420

E4-9.

Selected Balance Sheet Amounts at December 31, 20A

Assets:	
Equipment (recorded at cost per cost principle)	\$12,000
Accumulated depreciation (for one year, \$12,000 ÷ 10 yrs.)	(1,200)
Carrying value of equipment (difference)	10,800
Office supplies inventory (on hand, as given)	400
Prepaid insurance (remaining coverage, \$400 x 18/24 months)	300

Selected Income Statement Amounts for the Year Ended December 31, 20A:

Depreciation expense (for one year, \$12,000 ÷ 10 yrs.)	\$ 1,200
Office supplies expense (used, \$1,400 - \$400 on hand)	1,000
Insurance expense (for 6 months, \$400 x 6/24 months)	100

E4-10.

Date	Balance Sheet			Income Statement		
	Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	Net Income
April 1, 20B	NE	NE	NE	NE	NE	NE
Receipt of Note 1						
December 31, 20B	+ 750	NE	+ 750	+ 750	NE	+ 750
Adjustment for Note 1						
March 31, 20C	+ 250	NE	+ 250	+250	NE	+ 250
Collection of Note 1						
August 1, 20B	+ 20,000	+ 20,000	NE	NE	NE	NE
Borrowing on Note 2						
December 31, 20B	NE	+ 1,000	- 1,000	NE	+ 1,000	- 1,000
Adjustment for Note 2						
July 31, 20C	- 22,400	- 21,000	- 1,400	NE	+ 1,400	- 1,400
Payment on Note 2						

E4-11.

- Req. 1
- Cash paid on accrued income taxes payable.
 - Accrual of additional income taxes payable.
 - Cash paid on dividends payable.
 - Amount of dividends declared for the period but not paid.
 - Cash paid on accrued interest payable.
 - Accrual of additional interest payable.

Req. 2 Computations:

(a)

Beg. Bal.	+	accrued income taxes	-	cash paid	=	End. bal.
\$71	+	332	-	?	=	\$80
		403	-	?	=	\$80
			-	?	=	<u>\$323 paid</u>

(c)

Beg. Bal.	+	dividends declared	-	cash paid	=	End. bal.
\$43	+	176	-	?	=	\$48
		219	-	?	=	\$48
			-	?	=	<u>\$171 paid</u>

(f)

Beg. Bal.	+	accrued interest expense	-	cash paid	=	End. bal.
\$45	+	?	-	297	=	\$51
		?	-	252	=	\$51
		?	-	?	=	<u>\$303 accrued</u>

E4-12.

Req. 1 Adjusting entries that were or should have been made at December 31:

- Should have been made.

Depreciation expense (+E → -SE).....	10,000	
Accumulated depreciation - equipment (+XA → -A)		10,000
[((\$130,000 - 30,000) ÷ 10 years)]		
- Should have been made.

Unearned fees revenue (-L).....	3,000	
Fees revenue (+R).....		3,000
Amount is given.		
- Entry already made.

Interest expense (+E → -SE).....	1,800	
Interest payable (+L).....		1,800
(\$15,000 x 12% x 12/12 months)		

Should have been made.

Interest expense (+E → -SE).....	300	
Interest payable (+L).....		300
(\$15,000 x 12% x 2/12 months)		
- Should have been made.

Prepaid insurance expense (+A).....	400	
Insurance expense (-E → +SE).....		400
Amount is given.		
- Should have been made.

Rent receivable (+A).....	750	
Rent revenue (+R).....		750
Amount is given.		

Req. 2

Transaction	Balance Sheet			Income Statement		
	Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	Net Income
(a)	O 10,000	NE	O 10,000	NE	U 10,000	O 10,000
(b)	NE	O 3,000	U 3,000	U 3,000	NE	U 3,000
(c)	NE	O 1,500	U 1,500	NE	O 1,500	U 1,500
(d)	U 400	NE	U 400	NE	O 400	U 400
(e)	U 750	NE	U 750	U 750	NE	U 750

E4-13.

Items	Net Income	Total Assets	Total Liabilities	Stockholders' Equity
Balances reported	\$30,000	\$90,000	\$40,000	\$50,000
Effects of:				
a. Depreciation	(8,000)	(8,000)		(8,000)
b. Wages	(17,000)		17,000	(17,000)
c. Rent revenue	1,600		(1,600)	1,600
Adjusted balances	6,600	82,000	55,400	26,600
d. Effects of income taxes	(1,980)		1,980	(1,980)
Correct balances	\$ 4,620	\$82,000	\$57,380	\$24,620

Computations:

- $[(\$85,000 - \$5,000) \div 10 \text{ years}] = \$8,000$ depreciation.
- Given, \$17,000 accrued and unpaid.
- $\$4,800 \times 1/3 = \$1,600$ rent revenue earned. The remaining \$3,200 in unearned revenue is a liability for two months of occupancy "owed" to the renter.
- $\$6,600$ income before taxes $\times 30\% = \$1,980$.

E4-14.

Req. 1

a. Expense (depreciation) (+E → -SE).....	5,000	
Accumulated depreciation (+XA → -A)...		5,000
(\$50,000 ÷ 10 years)		
b. Rent receivable (+A).....	2,000	
Revenues (rent) (+R).....		2,000
c. Income tax expense (+E → -SE).....	6,900	
Income taxes payable (+L).....		6,900

Req. 2

	As Prepared	Effects of Adjusting Entries	Corrected Amounts
Income statement:			
Revenues	\$98,000	b \$2,000	\$100,000
Expenses	(72,000)	a (5,000)	(77,000)
Income tax expense		c (6,900)	(6,900)
Net income	\$26,000	(9,900)	\$16,100
Balance Sheet:			
Assets			
Cash	\$20,000		\$20,000
Accounts receivable	22,000		22,000
Rent receivable		b 2,000	2,000
Equipment	50,000		50,000
Accumulated depreciation	(10,000)	a (5,000)	(15,000)
	\$82,000	(3,000)	\$79,000
Liabilities			
Accounts payable	\$10,000		\$10,000
Income taxes payable		c 6,900	6,900
Stockholders' Equity			
Contributed capital	40,000		40,000
Retained earnings	32,000	(9,900)	22,100
	\$82,000	(3,000)	\$79,000

E4-15.

Req. 1

a. Wages expense (+E → -SE).....	310	
Wages payable (+L).....		310
b. Utilities expense (+E → -SE).....	400	
Accrued expenses payable (+L).....		400
c. Depreciation expense (+E → -SE).....	23,000	
Accumulated depreciation (+XA → -A).....		23,000
d. Interest expense (+E → -SE).....	500	
Interest payable (+L).....		500
(\$20,000 × .10 × 3/12)		
e. No adjustment is needed because the revenue will not be earned until January (next year).		
f. Supplies inventory (+A).....	1,000	
Maintenance expense (-E → +SE).....		1,000
g. Income tax expense (+E → -SE).....	7,000	
Income tax payable (+L).....		7,000

E4-15. (continued)

Req. 2

BARTON, INC.		
Income Statement		
For the Year Ended December 31, 20A		
Rental revenues		\$114,000
Expenses:		
Salaries and wages (\$28,500 + \$310)	\$28,810	
Maintenance expense (\$12,000 - \$1,000)	11,000	
Rent expense	9,000	
Utilities expense (\$4,000 + \$400)	4,400	
Gas and oil expense	3,000	
Depreciation expense	23,000	
Interest expense (\$20,000 × 10% × 3/12)	500	
Miscellaneous expenses	1,000	
Total expenses	80,710	
Pretax income		\$ 33,290
Income tax expense		7,000
Net income		\$ 26,290
Earnings per share: \$26,290 ÷ 7,000 shares		\$3.76

Req. 3

Net profit margin = Net income ÷ Net Sales = \$26,290 ÷ \$114,000 = 23.1%

The net profit margin indicates that, for every \$1 of rental revenues, Barton earns \$0.231 (23.1%) in net income. This ratio is higher than the industry average net profit margin of 18%, implying that Barton is more profitable and better able to manage its business (in terms of sales price or costs) than the average company in the industry.

E4-16.

- Req. 1 Cash from Operations: \$18,000
 Req. 2 20C Subscription Revenue (\$18,000 x 7/36): \$3,500
 Req. 3 20C Unearned Subscriptions Revenue (\$18,000 x 29/36) = \$14,500
 Req. 4

Adjusting entry (cash receipt credited to Unearned Subscriptions Revenue):

Unearned Subscriptions Revenue (L)			Subscriptions Revenue (R)		
AJE	3,500	9/1 18,000	AJE	3,500	
		End. 14,500		End. 3,500	

Unearned subscriptions revenue (-L)..... 3,500
 Subscriptions revenue (+R)..... 3,500
 To record the earning of revenue for seven months (\$500 per month).

Req. 5

- a. \$4,000 revenue target based on cash sales:
 This target is not clearly defined. Does management mean any cash subscriptions received during the period? Your region generated \$18,000 in cash subscriptions. By this assumption, your region far exceeded the company's target. You may be entitled to a generous bonus due to your strong performance.

On the other hand, management may mean any sales revenue earned that has also been received in cash during the period. Under this assumption, sales revenue earned and received in cash is \$3,500 (the accrual accounting basis amount). If this is the company's intention of its target, then your region did not meet the goal, only generating 87.5% of the target. You may need to provide an analysis to management regarding this below par performance.

This example demonstrates the need for clear communication of expectations by management.

- b. \$4,000 revenue target based on accrual accounting:
 This situation is the same as the second assumption under a. Your region earned \$500 less than expected by the company.

E4-17.

- Req. 1
- | | | | |
|-----|--|---|---|
| (a) | Insurance expense (+E → -SE) | 5 | |
| | Prepaid insurance (-A) | | 5 |
| (b) | Depreciation expense (+E → -SE) | 4 | |
| | Accumulated depreciation, machinery (+XA → -A) | | 4 |
| (c) | Wages expense (+E → -SE) | 7 | |
| | Wages payable (+L) | | 7 |
| (d) | Income tax expense (+E → -SE) | 9 | |
| | Income tax payable (+L) | | 9 |

Req. 2

**Cayuga Company
 Trial Balance
 December 31, 20A
 (in thousands of dollars)**

	Unadjusted		Adjustments		Adjusted	
	Debit	Credit	Debit	Credit	Debit	Credit
Cash	38				38	
Accounts receivable	9				9	
Prepaid insurance	6		a 5		1	
Machinery	80				80	
Accumulated depreciation		8		b 4		12
Accounts payable		9				9
Wages payable				c 7		7
Income taxes payable				d 9		9
Contributed capital		68				68
Retained earnings	4				4	
Revenues (not detailed)		84				84
Expenses (not detailed)	32		a 5 b 4 c 7 d 9		57	
Totals	169	169	25	25	189	189

E4-18.

**CAYUGA COMPANY
 Income Statement
 For the Year Ended December 31, 20A**

Revenues (not detailed)	\$84
Expenses (\$32 + 5 + 4 + 7)	48
Pretax income	36
Income tax expense	9
Net income	<u>\$27</u>
EPS (\$27,000 ÷ 4,000 shares)	<u>\$6.75</u>

**CAYUGA COMPANY
 Statement of Stockholders' Equity
 For the Year Ended December 31, 20A**

	Contributed Capital	Retained Earnings	Total Stockholders' Equity
Beginning balances, 1/1/20A	\$ 0	\$ 0	\$ 0
Stock issuance	68		68
Net income		27	27
Dividends declared		(4) *	(4)
Ending balances, 12/31/20A	<u>\$ 68</u>	<u>\$ 23</u>	<u>\$ 91</u>

* The amount of dividends declared can be inferred because the unadjusted trial balance amount for retained earnings is a negative \$4. Since this is the first year of operations, we can assume the entire amount is due to a dividend declaration.

**CAYUGA COMPANY
 Balance Sheet
 At December 31, 20A**

Assets		Liabilities	
Cash	\$ 38	Accounts payable	\$ 9
Accounts receivable	9	Wages payable	7
Prepaid insurance (\$6 - \$5)	1	Income taxes payable	9
Machinery	80	Total liabilities	\$ 25
Accumulated depreciation (\$8 + \$4)	(12)		
		Stockholders' Equity	
		Contributed capital	68
		Retained earnings	23
		Total liabilities and stockholders' equity	<u>\$116</u>
Total assets	\$116		

E4-19.

- a. Revenues (-R)..... 84
 Retained earnings (+SE)..... 84
- b. Retained earnings (-SE)..... 57
 Expenses (\$32 + \$5 + \$4 + \$7) (-E → +SE)..... 48
 Income tax expense (-E → +SE)..... 9

The purpose of "closing the books" at the end of the accounting period is to transfer the balance in the temporary accounts to a permanent account. This also creates a zero balance in the temporary accounts for accumulation of activities in the next accounting period.

PROBLEMS

P4-1.

Dell Computer Corporation.
Adjusted Trial Balance
At January 29, 20A

	Debit	Credit
Cash	\$ 520	
Marketable securities	2,661	
Accounts receivable	2,094	
Inventories	273	
Property, plant, and equipment	775	
Accumulated depreciation		\$ 252
Other assets	806	
Accounts payable		2,397
Accrued expenses payable		1,298
Long-term debt		512
Other liabilities		349
Contributed capital		1,781
Retained earnings (deficit)*	844	
Sales revenue		18,243
Cost of sales	14,137	
Selling, general, and administrative expenses	1,788	
Research and development expense	272	
Other expenses	38	
Income tax expense	624	
Totals	\$ 24,832	\$ 24,832

* Since debits are supposed to equal credits in a trial balance, the balance in Retained Earnings is determined as the amount in the debit column necessary to make debits equal credits (a "plugged" figure).

P4-2.

Req. 1

- | | |
|---------------------|---------------------|
| a. Deferred revenue | e. Deferred expense |
| b. Accrued revenue | f. Deferred revenue |
| c. Deferred expense | g. Accrued expense |
| d. Accrued expense | h. Accrued expense |

P4-2. (continued)

Req. 2

- | | | |
|--|-------|-------|
| a. Unearned rent revenue (-L)..... | 3,200 | |
| Rent revenue (+R)..... | | 3,200 |
| \$4,800 ÷ 6 months = \$800 per month x 4 months. This entry reduces (debits) the liability for the amount earned and records a revenue. | | |
| b. Accounts receivable (+A)..... | 3,000 | |
| Service revenue (+R)..... | | 3,000 |
| This entry records an asset for the amount due from customers and recognizes the revenue because it was earned in 20C. | | |
| c. Insurance expense (+E → -SE)..... | 700 | |
| Prepaid insurance (-A)..... | | 700 |
| \$4,200 ÷ 12 months = \$350 per month x 2 months of coverage. This entry reduces the asset (prepaid insurance) because part of it has been used and only \$3,500 represents future benefits (an asset) to the company. | | |
| d. Wage expense (+E → -SE)..... | 1,100 | |
| Wages payable (+L)..... | | 1,100 |
| Wage expense is increased (debited) because this expense was incurred in 20C. A liability (wages payable) is credited because this amount is owed to the employees. | | |
| e. Depreciation expense (+E → -SE)..... | 1,000 | |
| Accumulated depreciation, service truck (+XA → -A)..... | | 1,000 |
| Depreciation: \$12,000 ÷ 6 years x 1/2 year | | |
| f. Unearned service revenue (-L)..... | 250 | |
| Service revenue (+R)..... | | 250 |
| To recognize revenue earned during the year (\$1,500 x 2/12). | | |
| g. Property tax expense (+E → -SE)..... | 400 | |
| Property tax payable (+L)..... | | 400 |
| To record expense incurred but not paid. | | |
| h. Interest expense (+E → -SE)..... | 300 | |
| Interest payable (+L)..... | | 300 |
| To accrue interest expense incurred but not paid, \$10,000 x 12% x 3/12 = \$300. | | |

P4-3.

Req. 1

- | | |
|---------------------|---------------------|
| a. Deferred revenue | e. Deferred expense |
| b. Accrued revenue | f. Deferred revenue |
| c. Deferred expense | g. Accrued expense |
| d. Accrued expense | h. Accrued expense |

Req. 2

Transaction	Balance Sheet			Income Statement		
	Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	Net Income
a.	NE	-3,200	+3,200	+3,200	NE	+3,200
b.	+3,000	NE	+3,000	+3,000	NE	+3,000
c.	-700	NE	-700	NE	+700	-700
d.	NE	+1,100	-1,100	NE	+1,100	-1,100
e.	-1,000	NE	-1,000	NE	+1,000	-1,000
f.	NE	-250	+250	+250	NE	+250
g.	NE	+400	-400	NE	+400	-400
h.	NE	+300	-300	NE	+300	-300

P4-4.

Req. 1

- | | |
|---------------------|---------------------|
| a. Deferred expense | e. Accrued revenue |
| b. Deferred expense | f. Deferred expense |
| c. Accrued expense | g. Accrued expense |
| d. Accrued expense | h. Accrued expense |

Req. 2

- | | | |
|--|-----|-----|
| a. Insurance expense (+E → -SE)..... | 200 | |
| Prepaid insurance (-A)..... | | 200 |
| \$1,200 ÷ 36 months x 6 months of coverage. This entry reduces the asset (prepaid insurance) because part of it has been used and only \$1,000 represents future benefits (an asset) to the company. | | |

P4-4. (continued)

- | | | |
|---|-----------------|----------------------------|
| b. Supplies expense (+E → -SE)..... | 700 | |
| Supplies inventory (-A)..... | | 700 |
| Supplies inventory is decreased (credited) to record the use of supplies during the year because this expense was incurred in 20B, calculated as Beg. Inventory of \$200 + Purchases \$800 - Ending Inventory \$300 | | |
| c. Repairs and maintenance expense (+E → -SE)..... | 800 | |
| Accrued expenses payable (+L)..... | | 800 |
| Repairs and maintenance expense is increased (debited) because this expense was incurred in 20B. A liability (accrued expenses payable) is credited because this amount is owed but will not be paid until 20C. | | |
| d. Property tax expense (+E → -SE)..... | 1,600 | |
| Property tax payable (+L)..... | | 1,600 |
| Property tax expense is increased (debited) because this expense was incurred in 20B. A liability (property tax payable) is credited because this amount is owed but will not be paid until 20C. | | |
| e. Accounts receivable (+A)..... | 8,000 | |
| Sales revenue (+R)..... | | 8,000 |
| This entry records an asset for the amount due from customers and recognizes the revenue because it was earned in 20C. | | |
| f. Depreciation expense (+E → -SE)..... | 1,100 | |
| Accumulated depreciation, service truck (+XA → -A)..... | | 1,100 |
| Depreciation: (\$23,600 - \$1,600) ÷ 10 years x 1/2 year | | |
| g. Interest expense (+E → -SE)..... | 300 | |
| Interest payable (+L)..... | | 300 |
| To accrue interest expense incurred but not paid, \$10,000 x 12% x 3/12 = \$300. | | |
| h. Income tax expense (+E → -SE)..... | 9,990 | |
| Income tax payable (+L)..... | | 9,990 |
| To accrue income tax expense incurred but not paid: | | |
| Income before adjustments (given) | \$30,000 | |
| Effect of adjustments (a) through (g) | +3,300 | (-200 - 700 - 800 - 1,600) |
| Income before income taxes | 33,300 | +8,000 - 1,100 - 300) |
| Income tax rate | 30% | |
| Income tax expense | <u>\$ 9,990</u> | |

P4-5.

Req. 1

- | | |
|---------------------|---------------------|
| a. Deferred expense | e. Accrued revenue |
| b. Deferred expense | f. Deferred expense |
| c. Accrued expense | g. Accrued expense |
| d. Accrued expense | h. Accrued expense |

Req. 2

Transaction	Balance Sheet			Income Statement		
	Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	Net Income
a.	- 200	NE	- 200	NE	+ 200	- 200
b.	- 700	NE	- 700	NE	+ 700	- 700
c.	NE	+ 800	- 800	NE	+ 800	- 800
d.	NE	+ 1,600	- 1,600	NE	+ 1,600	- 1,600
e.	+ 8,000	NE	+ 8,000	+ 8,000	NE	+ 8,000
f.	- 1,100	NE	- 1,100	NE	+ 1,100	- 1,100
g.	NE	+ 300	- 300	NE	+ 300	- 300
h.	NE	+ 9,990	- 9,990	NE	+ 9,990	- 9,990

Computations:

- Six months of expired insurance during 20B: $\$1,200 \times 6/36 = \200 .
- Supplies used during 20B: Beg. inventory, $\$200 + \text{Purchases}, \$800 - \text{Ending inventory}, \$300 = \$700$ used for the period.
- Expense incurred during 20B to be paid during January 20C.
- Property taxes incurred in 20B to be paid on February 15, 20C.
- Accrued revenue: earned in 20B but not yet collected or recorded; payable within 30 days.
- Depreciation for 6 months: $[(\$23,600 - \$1,600) \div 10 \text{ years}] \times 6/12 = \$1,100$.
- Interest expense accrued for 3 months: $\$10,000 \times 12\% \times 3/12 = \300 .
- Adjusted income = $\$30,000 - 200 - 700 - 800 - 1,600 + 8,000 - 1,100 - 300 = \$33,300$
 $\times 30\% \text{ tax rate} = \$9,990$ income tax expense.

P4-6.

(1) Rent revenue		(2) Salary expense		(3) Maintenance supplies expense	
512,000 (a)	(e) 62,000	Used	9,300		
16,000 (b)	(f) 3,000				
<u>528,000</u>	<u>65,000</u>		<u>9,300</u>		
(5) Rent receivable		(7) Receivables from employees		(8) Maintenance supplies inventory	
(b) 16,000	(g) 1,500	(h) 3,000	(i) 8,000	9,300 used	
<u>16,000</u>	<u>1,500</u>	(j) <u>1,700</u>			
(9) Unearned rent revenue		(10) Salaries payable			
12,000 (c)	(d) 4,000	4,000 Bal.	3,000 (f)		
<u>12,000</u>	<u>3,000</u>		<u>3,000</u>		
(4, 6, 11) Cash					
(a) from renters	512,000	4,000	(d) to employees		
(c) from renters	12,000	62,000	(e) to employees		
	<u>524,000</u>	<u>1,500</u>	(g) to employees		
		<u>67,500</u>			
		<u>8,000</u>	(i) to suppliers		

Item	Description	Location
1.	Rent revenue	Income statement (Revenue)
2.	Salary expense	Income statement (Expense)
3.	Maintenance supplies expense	Income statement (Expense)
4.	Cash from renters	Statement of cash flows (Operating)
5.	Rent receivable	Balance sheet (Asset)
6.	Cash to suppliers	Statement of cash flows (Operating)
7.	Receivables from employees	Balance sheet (Asset)
8.	Maintenance supplies inventory	Balance sheet (Asset)
9.	Unearned rent revenue	Balance sheet (Liability)
10.	Salaries payable	Balance sheet (Liability)
11.	Cash to employees	Statement of cash flows (Operating)

P4-7.

Req. 1

December 31, 20B Adjusting Entries

- Service revenue receivable (+A)..... 400 (b)
 Service revenue (+R) 400 (i)
 To record service fees earned, but not collected.
- Insurance expense (+E → -SE) 200 (l)
 Prepaid insurance (-A) 200 (c)
 To record insurance expired as an expense.
- Depreciation expense (+E → -SE)..... 8,500 (k)
 Accumulated depreciation, equipment (+XA → -A) 8,500 (e)
 To record depreciation expense.
- Income tax expense (+E → -SE) 4,700 (m)
 Income tax payable (+L) 4,700 (f)
 To record income taxes for 20B.

Req. 2

	Amounts before Adjusting Entries	Amounts after Adjusting Entries
Revenues:		
Service revenue	\$46,000	\$46,400
Expenses:		
Salary expense	41,700	41,700
Depreciation expense		8,500
Insurance expense		200
Income tax expense		4,700
Total expense	<u>41,700</u>	<u>55,100</u>
Net income (loss)	<u>\$4,300</u>	<u>\$ (8,700)</u>

Net loss is \$8,700 because this amount includes all revenues and all expenses (after the adjusting entries). This amount is correct because it incorporates the effects of the revenue and matching principles applied to all transactions whose effects extend beyond the period in which the transactions occurred. Net income of \$4,300 was not correct because expenses of \$13,400 and revenues of \$400 were excluded that should have been recorded in 20B.

Req. 3

Earnings per share = $\$(8,700) \text{ net loss} \div 3,000 \text{ shares} = \$(2.90) \text{ per share}$

P4-7. (continued)

Req. 4

Net profit margin = $\text{Net income} \div \text{Net Sales} = \$(8,700) \text{ net loss} \div \$46,400 = (18.8)\%$

The net profit margin indicates that, for every \$1 of service revenues, Willenborg actually lost \$0.188 of net income. This ratio implies that Willenborg destroys shareholder value in generating its sales and suggests that better management of its business (in terms of sales price or costs) is required.

Req. 5

Service revenue (-R).....	46,400	
Retained earnings (+SE).....		46,400
Retained earnings (-SE)	55,100	
Salary expense (-E).....		41,700
Depreciation expense (-E).....		8,500
Insurance expense (-E).....		200
Income tax expense (-E).....		4,700

P4-8.

Req. 1

December 31, 20D Adjusting Entries:

(a)	Supplies expense (+E → -SE)	500	
	Supplies inventory (-A)		500
(b)	Insurance expense (+E → -SE)	500	
	Prepaid insurance (-A)		500
(c)	Depreciation expense (+E → -SE)	4,000	
	Accumulated depreciation, trucks (+XA → -A) ..		4,000
(d)	Wages expense (+E → -SE)	900	
	Wages payable (+L)		900
(e)	Income tax expense (+E → -SE)	7,350	
	Income tax payable (+L)		7,350

Req. 2

MOSTERT, INC.
Income Statement
For the Year Ended December 31, 20D

Service revenue		\$77,000
Supplies expense (\$800 - \$300)	\$ 500	
Insurance expense (\$1,000 - \$500)	500	
Depreciation expense	4,000	
Wages expense	900	
Remaining expenses (not detailed)	<u>41,700</u>	
Total expenses		<u>47,600</u>
Pretax income		\$29,400
Income tax expense		<u>7,350</u>
Net income		<u>\$22,050</u>
Earnings per share (\$22,050 ÷ 5,000 shares)		<u>\$4.41</u>

P4-8. (continued)

MOSTERT, INC.
Balance Sheet
At December 31, 20D

Assets		Liabilities	
Cash	\$60,000	Accounts payable	\$ 3,000
Accounts receivable	13,000	Wages payable	900
Service supplies inventory	300	Income taxes payable	7,350
Prepaid insurance	500	Note payable, long term	<u>20,000</u>
Service trucks	20,000	Total liabilities	\$31,250
Accumulated depreciation, trucks	(16,000)		
Other assets (not detailed)	11,200	Stockholders' Equity	
		Contributed capital	28,200
		Retained earnings*	<u>29,550</u>
		Total stockholders' equity	<u>\$57,750</u>
Total assets	\$89,000	Total liabilities and stockholders' equity	\$89,000

*Unadjusted balance, \$7,500 + Net income, \$22,050 = Ending balance, \$29,550.

Req. 3

December 31, 20D Closing Entries:

(a)	Service revenue (-R)	77,000	
	Retained earnings (+SE)		77,000
(b)	Retained earnings (-SE)	54,950	
	Supplies expense (-E)		500
	Insurance expense (-E)		500
	Depreciation expense (-E)		4,000
	Wages expense (-E)		900
	Remaining expenses (not detailed) (-E)		41,700
	Income tax expense (-E)		7,350

P4-9.

Req. 1, 2, 3, 5, and 6 T-accounts

Cash	Accounts Receivable	Service Supplies Inventory
Bal. 3 | b 9	Bal. 5 | f 24	Bal. 12 | l 16
a 10 | e 70	c 40	i 18
c 120 | g 10		
d 3 | h 13		
f 24 | k 17		
Bal. <u>41</u>	Bal. <u>21</u>	Bal. <u>14</u>
Land	Equipment	Accumulated Depreciation
b 9	Bal. 60	Bal. 6
Bal. <u>9</u>	Bal. <u>60</u>	m 6
		Bal. <u>12</u>
Remaining Assets	Accounts Payable	Notes Payable
Bal. 4	h 13 | Bal. 5	a 10
g 10	e 15	
Bal. <u>14</u>	i 18 | Bal. <u>25</u>	Bal. <u>10</u>
Wages Payable	Interest Payable	Income Taxes Payable
o 12	n 1	p 8
Bal. <u>12</u>	Bal. <u>1</u>	Bal. <u>8</u>
Contributed Capital	Retained Earnings	Service Revenue
Bal. 65	k 17 | Bal. 8	c 160
d 3	CE2 128 | CE1 160	CE1 160
Bal. <u>68</u>	Bal. <u>23</u>	Bal. <u>0</u>
Depreciation Expense	Income Tax Expense	Interest Expense
m 6 | CE2 6	p 8 | CE2 8	n 1 | CE2 1
Bal. <u>0</u>	Bal. <u>0</u>	Bal. <u>0</u>
Remaining Expenses		
e 85		
l 16		
o 12 | CE2 113		

P4-9. (continued)

Req. 2

Declared and paid a cash dividend.

a.	Cash (+A).....	10	
	Note payable (+L).....		10
	Borrowed cash on 12% note, March 1, 20B.		
b.	Land (+A).....	9	
	Cash (-A).....		9
	Purchased land for future building site.		
c.	Cash (+A).....	120	
	Accounts receivable (+A).....	40	
	Service revenue (+R).....		160
	Service revenues earned during 20B.		
d.	Cash (+A).....	3	
	Contributed capital (+SE).....		3
	Sold capital stock for cash.		
e.	Remaining expenses (+E → -SE).....	85	
	Accounts payable (+L).....		15
	Cash (-A).....		70
	Remaining expenses incurred during 20B.		
f.	Cash (+A).....	24	
	Accounts receivable (-A).....		24
	Collected on customers' accounts.		
g.	Remaining assets (+A).....	10	
	Cash (-A).....		10
	Purchased additional assets.		
h.	Accounts payable (-L).....	13	
	Cash (-A).....		13
	Paid creditors.		
i.	Service supplies inventory (+A).....	18	
	Accounts payable (+L).....		18
	Purchased services supplies for future use.		
j.	No entry required; no revenue earned in 20B.		
k.	Retained earnings (-SE).....	17	
	Cash (-A).....		17

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P4-9. (continued)

Req. 3

Earnings per share
[\$32 + [(65+68)÷2]

\$0.48

l.	Remaining expenses (+E → -SE).....	16	
	Service supplies inventory (-A).....		16
	To record supplies used (\$30 - 14).		
m.	Depreciation expense (+E → -SE).....	6	
	Accumulated depreciation (+XA → -A).....		6
	To record depreciation (\$60 ÷ 10 years).		
n.	Interest expense (+E → -SE).....	1	
	Interest payable (+L).....		1
	To accrue interest for March - December, 20B, (\$10 x 12% x 10/12).		
o.	Remaining expenses (wages) (+E → -SE).....	12	
	Wages payable (+L).....		12
	To accrue wages incurred but not paid.		
p.	Income tax expense (+E → -SE).....	8	
	Income taxes payable (+L).....		8
	To accrue income tax.		

Req. 4

H & H TOOL, INC.
Income Statement
For the Year Ended December 31, 20B
(in thousands)

Revenues:		
Service revenue		\$160
Expenses:		
Depreciation expense	\$ 6	
Interest expense	1	
Remaining expenses	113	120
Pretax income		\$40
Income tax expense		8
Net income		<u>\$32</u>

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P4-9. (continued)

H & H TOOL, INC.
Statement of Stockholders' Equity
For the Year Ended December 31, 20B
(in thousands)

	Contributed Capital	Retained Earnings	Total Stockholders' Equity
Balance, January 1, 20B	\$65	\$ 8	\$73
Additional stock issuance	3		3
Net income		32	32
Dividends declared		(17)	(17)
Balance, December 31, 20B	\$68	\$23	\$91

H & H TOOL, INC.
Balance Sheet
At December 31, 20B
(in thousands)

Assets:		Liabilities:	
Cash	\$ 41	Accounts payable	\$ 25
Accounts receivable	21	Notes payable	10
Service supplies inventory	14	Wages payable	12
Land	9	Interest payable	1
Equipment	\$60	Income taxes payable	8
Less: Accumulated deprec.	12	Total liabilities	\$ 56
Remaining assets	14	Stockholders' Equity:	
		Contributed capital	\$68
		Retained earnings	23
		Total stockholders' equity	91
Total assets	\$147	Total liabilities and stockholders' equity	\$147

P4-9. (continued)

H & H TOOL, INC.
Statement of Cash Flows
For the Period Ended December 31, 20B
(in thousands)

Cash from Operating Activities:		
Cash collected from customers (c, \$120 + f, 24)		\$144
Cash paid to suppliers and employees (e, \$70 + h, 13)	(83)	
Cash provided by operations		\$ 61
Cash from Investing Activities:		
Purchase of land (b)		\$ (9)
Purchase of other assets (g)	(10)	
Cash used for investing activities		(19)
Cash from Financing Activities:		
Borrowing from bank (a)		\$ 10
Issuance of stock (d)		3
Payment of dividends (k)	(17)	
Cash used for financing activities		(4)
Change in cash		\$ 38
Beginning cash balance, January 1, 20B		3
Ending cash balance, December 31, 20B		\$ 41

Req. 5

December 31, 20B Closing Entries

1	Service revenue (-R).....	160	
	Retained earnings (+SE)		160
	To close revenues.		
2	Retained earnings (-SE).....	128	
	Depreciation expense (-E)		6
	Interest expense (-E)		1
	Remaining expenses (-E)		113
	Income tax expense (-E)		8
	To close expenses.		

P4-9. (continued)

Req. 6

Post-closing trial balance:

H & H TOOL, INC.
Post-Closing Trial Balance
At December 31, 20B
(in thousands)

Account No.	No.	Debit	Credit
Cash	01	\$ 41	
Accounts receivable	02	21	
Service supplies inventory	03	14	
Land	04	9	
Equipment	05	60	
Accumulated depreciation (equipment)	06		\$ 12
Remaining assets (not detailed)	07	14	
Accounts payable	11		25
Notes payable	12		10
Wages payable	13		12
Interest payable	14		1
Income taxes payable	15		8
Contributed capital (68,000 shares)	21		68
Retained earnings	31		23
Service revenue	35		0
Depreciation expense	40	0	
Income tax expense	41	0	
Interest expense	42	0	
Remaining expenses (not detailed)	43	0	
Total		\$159	\$159

P4-9. (continued)

Req. 7

- (a) Financial leverage = Average total assets ÷ Average stockholders' equity
 = [(\$78+\$147)÷2] ÷ [(\$73+\$91)÷2]
 = \$112.5 ÷ \$82.0
 = 1.37
- (b) Total asset turnover = Sales ÷ Average total assets
 = \$160 ÷ \$112.5
 = 1.42
- (c) Net profit margin = Net income ÷ Sales
 = \$32 ÷ \$160
 = 0.20 (20%)

ALTERNATE PROBLEMS

AP4-1.

Starbucks Corporation.
Adjusted Trial Balance
At September 30, 20E

	Debit	Credit
Cash	\$ 66	
Short-term investments	51	
Accounts receivable	48	
Inventories	181	
Prepaid expenses	19	
Other current assets	21	
Long-term investments	68	
Property, plant and equipment, net	1,081	
Accumulated depreciation, PP&E		\$ 321
Other long-lived assets	38	
Accounts payable		56
Accrued liabilities		131
Short-term bank debt		64
Long-term liabilities		40
Contributed capital		647
Retained earnings*		212
Net revenues		1,680
Interest income		9
Cost of sales	741	
Store operating expenses	544	
Other operating expenses	51	
Depreciation	98	
General and admin. expenses	90	
Interest expense	1	
Income tax expense	62	
Totals	\$ 3,160	\$ 3,160

* Since debits are supposed to equal credits in a trial balance, the balance in Retained Earnings is determined as the amount in the credit column necessary to make debits equal credits (a "plugged" figure).

AP4-2.

Req. 1

- | | |
|---------------------|---------------------|
| a. Deferred expense | e. Deferred revenue |
| b. Accrued expense | f. Accrued expense |
| c. Deferred revenue | g. Accrued expense |
| d. Deferred expense | h. Accrued revenue |

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AP4-2. (continued)

Req. 2

- | | | |
|--|-------|-------|
| a. Insurance expense (+E → -SE)..... | 1,600 | |
| Prepaid insurance (-A)..... | | 1,600 |
| \$3,200 ÷ 6 months × 3 months of coverage. This entry reduces the asset (prepaid insurance) because part of it has been used and the remaining \$1,600 represents future benefits (an asset) to the company. | | |
| b. Wage expense (+E → -SE)..... | 900 | |
| Wages payable (+L)..... | | 900 |
| Wage expense is increased (debited) because this expense was incurred in 20B. A liability (wages payable) is credited because this amount is owed to the employees. | | |
| c. Unearned maintenance revenue (-L)..... | 225 | |
| Maintenance revenue (+R)..... | | 225 |
| \$450 ÷ 2 months × 1 month. This entry reduces (debits) the liability for the amount earned and records a revenue. | | |
| d. Depreciation expense (+E → -SE)..... | 3,000 | |
| Accumulated depreciation, service truck (+XA → -A)..... | | 3,000 |
| Depreciation: (\$15,000 - \$3,000) ÷ 4 years | | |
| e. Unearned service revenue (-L)..... | 700 | |
| Service revenue (+R)..... | | 700 |
| To recognize revenue earned during the year, \$4,200 ÷ 12 months × 2 months. | | |
| f. Interest expense (+E → -SE)..... | 600 | |
| Interest payable (+L)..... | | 600 |
| To accrue interest expense incurred but not paid, \$16,000 × 9% ÷ 12 months × 5 months = \$600. | | |
| g. Property tax expense (+E → -SE)..... | 500 | |
| Property tax payable (+L)..... | | 500 |
| To record expense incurred but not paid. | | |
| h. Accounts receivable (+A)..... | 2,000 | |
| Service revenue (+R)..... | | 2,000 |
| This entry records an asset for the amount due from customers and recognizes the revenue because it was earned in 20B. | | |

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AP4-3.

Req. 1

- | | |
|---------------------|---------------------|
| a. Deferred expense | e. Deferred revenue |
| b. Accrued expense | f. Accrued expense |
| c. Deferred revenue | g. Accrued expense |
| d. Deferred expense | h. Accrued revenue |

Req. 2

Transaction	Balance Sheet			Income Statement		
	Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	Net Income
a.	-1,600	NE	-1,600	NE	+1,600	-1,600
b.	NE	+900	-900	NE	+900	-900
c.	NE	-225	+225	+225	NE	+225
d.	-3,000	NE	-3,000	NE	+3,000	-3,000
e.	NE	-700	+700	+700	NE	+700
f.	NE	+600	-600	NE	+600	-600
g.	NE	+500	-500	NE	+500	-500
h.	+2,000	NE	+2,000	+2,000	NE	+2,000

AP4-4.

Req. 1

- | | |
|---------------------|---------------------|
| a. Deferred expense | e. Deferred expense |
| b. Accrued revenue | f. Deferred expense |
| c. Accrued expense | g. Accrued revenue |
| d. Deferred expense | h. Accrued expense |

Req. 2

- | | | |
|---|-------|-------|
| a. Supplies expense (+E → -SE)..... | 1,150 | |
| Supplies inventory (-A)..... | | 1,150 |
| Supplies inventory is decreased (credited) to record the use of supplies during the year because this expense was incurred in 20B, calculated as Beg. Inventory of \$350 + Purchases \$1,200 - Ending Inventory \$400 | | |

AP4-4. (continued)

- | | | |
|---|----------|--------------------------|
| b. Accounts receivable (+A)..... | 7,500 | |
| Sales revenue (+R)..... | | 7,500 |
| This entry records an asset for the amount due from customers and recognizes the revenue because it was earned in 20B. | | |
| c. Repairs and maintenance expense (+E → -SE)..... | 600 | |
| Accrued expenses payable (+L)..... | | 600 |
| Repairs and maintenance expense is increased (debited) because this expense was incurred in 20B. A liability (accrued expenses payable) is credited because this amount is owed but will not be paid until 20C. | | |
| d. Insurance expense (+E → -SE)..... | 200 | |
| Prepaid insurance (-A)..... | | 200 |
| \$1,200 ÷ 12 months × 2 months of coverage. This entry reduces the asset (prepaid insurance) because part of it has been used while \$1,000 represents future benefits (an asset) to the company. | | |
| e. Rent expense (+E → -SE)..... | 700 | |
| Prepaid rent (-A)..... | | 700 |
| \$2,100 ÷ 3 months × 1 month of coverage. This entry reduces the asset (prepaid rent) because part of it has been used while \$1,400 represents future benefits (an asset) to the company. | | |
| f. Depreciation expense (+E → -SE)..... | 1,600 | |
| Accumulated depreciation, service truck (+XA → -A)..... | | 1,600 |
| Depreciation: (\$18,000 - \$2,000) ÷ 5 years × ½ year. | | |
| g. Interest receivable (+A)..... | 80 | |
| Interest income (+R)..... | | 80 |
| To accrue interest income earned but not yet received, \$4,000 × 12% × 2/12 = \$80. | | |
| h. Income tax expense (+E → -SE)..... | 7,719 | |
| Income tax payable (+L)..... | | 7,719 |
| To accrue income tax expense incurred but not paid: | | |
| Income before adjustments (given) | \$22,400 | |
| Effect of adjustments (a) through (g) | +3,330 | (-1,150 + 7,500 - 600) |
| Income before income taxes | 25,730 | -200 - 700 - 1,600 + 80) |
| Income tax rate | 30% | |
| Income tax expense | \$ 7,719 | |

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AP4-5.

Req. 1

- | | |
|---------------------|---------------------|
| a. Deferred expense | e. Deferred expense |
| b. Accrued revenue | f. Deferred expense |
| c. Accrued expense | g. Accrued revenue |
| d. Deferred expense | h. Accrued expense |

Req. 2

Transaction	Balance Sheet			Income Statement		
	Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	Net Income
a.	-1,150	NE	-1,150	NE	+1,150	-1,150
b.	+7,500	NE	+7,500	+7,500	NE	+7,500
c.	NE	+600	-600	NE	+600	-600
d.	-200	NE	-200	NE	+200	-200
e.	-700	NE	-700	NE	+700	-700
f.	-1,600	NE	-1,600	NE	+1,600	-1,600
g.	+80	NE	+80	+80	NE	+80
h.	NE	+7,719	-7,719	NE	+7,719	-7,719

Computations:

- Supplies used during 20B: Beg. Inventory of \$350 + Purchases \$1,200 – Ending Inventory \$400 = \$1,150 used for the period.
- Accrued revenue: earned in 20B but not yet collected or recorded; payable within 30 days.
- Expense incurred during 20B to be paid during January 20C.
- Two months of expired insurance during 20B: $\$1,200 \times 2/12 = \200 .
- One month of expired rent during 20B: $\$2,100 \times 1/3 = \700 .
- Depreciation for 6 months: $(\$18,000 - \$2,000) \div 5 \text{ years} \times 6/12 = \$1,600$.
- Interest expense accrued for 2 months: $\$4,000 \times 12\% \times 2/12 = \80 .
- Adjusted income = $\$22,400 - 1,150 + 7,500 - 600 - 200 - 700 - 1,600 + 80 = \$25,730$
x 30% tax rate = \$7,719 income tax expense.

AP4-6.

(1)	(3) Cleaning supplies expense	(4)
Service revenue	Used 13,600	Accounts receivable
213,000 (b)		Beg. 11,000 11,000 (a)
14,000 (c)		(c) 14,000
<u>227,000</u>	<u>13,600</u>	<u>14,000</u>

(6) Cleaning supplies inventory	(7) Wages expense	(9) Unearned revenue
(h) 1,800	(f) 78,000	19,000 (d)
(i) 14,500 13,600 used	(g) 1,900	
(j) <u>2,700</u>	<u>79,900</u>	<u>19,000</u>

(10) Wages payable	(2, 5, 8) Cash
(e) 1,500 1,500 Beg.	(a) from customers 11,000 1,500 to employees (e)
1,900 (g)	(b) from customers 213,000 78,000 to employees (f)
<u>1,900</u>	(d) from customers <u>19,000</u> <u>79,500</u>
	<u>243,000</u>
	<u>14,500</u> to suppliers (i)

Item	Description	Location
1.	Service revenue	Income statement (Revenue)
2.	Cash to employees	Statement of cash flows (Operating)
3.	Cleaning supplies expense	Income statement (Expense)
4.	Accounts receivable	Balance sheet (Asset)
5.	Cash to suppliers	Statement of cash flows (Operating)
6.	Cleaning supplies inventory	Balance sheet (Asset)
7.	Wages expense	Income statement (Expense)
8.	Cash from customers	Statement of cash flows (Operating)
9.	Unearned revenue	Balance sheet (Liability)
10.	Wages payable	Balance sheet (Liability)

AP4-7.

Req. 1

December 31, 20B Adjusting Entries

(1) Service revenue receivable (+A)	1,500	(b)
Service revenue (+R)		1,500 (j)
To record service fees earned, but not collected.		
(2) Rent expense (+E → -SE)	400	(m)
Prepaid rent (-A)		400 (c)
To record rent expired as an expense.		
(3) Depreciation expense (+E → -SE)	17,500	(l)
Accumulated depreciation, PP&E (+XA → -A)		17,500 (e)
To record depreciation expense.		
(4) Deferred revenue (-L)	8,000	(g)
Service revenue (+R)		8,000 (j)
To record service fees earned.		
(5) Income tax expense (+E → -SE)	6,500	(n)
Income tax payable (+L)		6,500 (f)
To record income taxes for 20B.		

Req. 2

	Amounts before Adjusting Entries	Amounts after Adjusting Entries
Revenues:		
Service revenue	\$83,000	\$92,500
Expenses:		
Salary expense	54,000	54,000
Depreciation expense		17,500
Rent expense		400
Income tax expense		6,500
Total expense	<u>54,000</u>	<u>78,400</u>
Net income (loss)	<u>\$29,000</u>	<u>\$14,100</u>

Net income is \$14,100 because this amount includes all revenues and all expenses (after the adjusting entries). This amount is correct because it incorporates the effects of the revenue and matching principles applied to all transactions whose effects extend beyond the period in which the transactions occurred. Net income of \$29,000 was not correct because expenses of \$24,400 and revenues of \$9,500 were excluded that should have been recorded in 20B.

AP4-7. (continued)

Req. 3

Earnings per share = $\$14,100 \text{ net income} \div 5,000 \text{ shares} = \2.82 per share

Req. 4

Net profit margin = $\text{Net income} \div \text{Net Sales} = \$14,100 \div \$92,500 = 15.2\%$

The net profit margin indicates that, for every \$1 of service revenues, Quillan made \$0.152 (15.2%) of net income. This ratio suggests that Quillan is generally profitable.

Req. 5

Service revenue (-R)	92,500	
Retained earnings (+SE)		92,500
Retained earnings (-SE)	78,400	
Salary expense (-E)		54,000
Depreciation expense (-E)		17,500
Rent expense (-E)		400
Income tax expense (-E)		6,500

AP4-8.

Req. 1

December 31, 20B Adjusting Entries:

(a)	Depreciation expense (+E → -SE)	3,000		
	Accumulated depreciation, equipment (+XA → -A)		3,000	
(b)	Insurance expense (+E → -SE)	450		
	Prepaid insurance (-A)		450	
(c)	Wages expense (+E → -SE)	1,100		
	Wages payable (+L)		1,100	
(d)	Supplies expense (+E → -SE)	700		
	Supplies inventory (-A)		700	
(e)	Income tax expense (+E → -SE)	2,950		
	Income tax payable (+L)		2,950	

Req. 2

VIALDI, CO.
Income Statement
For the Year Ended December 31, 20B

Service revenue		\$48,000
Supplies expense (\$1,300 - \$600)	\$ 700	
Insurance expense	450	
Depreciation expense	3,000	
Wages expense	1,100	
Remaining expenses (not detailed)	<u>32,900</u>	
Total expenses		<u>38,150</u>
Pretax income		\$9,850
Income tax expense		<u>2,950</u>
Net income		<u>\$6,900</u>
Earnings per share (\$6,900 ÷ 4,000 shares)		<u>\$1.73</u>

AP4-8. (continued)

VIALDI, CO.
Balance Sheet
At December 31, 20B

Assets		Liabilities	
Cash	\$19,600	Accounts payable	\$ 2,500
Accounts receivable	7,000	Wages payable	1,100
Supplies inventory	600	Income tax payable	2,950
Prepaid insurance	450	Note payable, long term	<u>5,000</u>
Equipment	27,000	Total liabilities	\$11,550
Accumulated depreciation	(15,000)		
Other assets (not detailed)	5,100		
		Stockholders' Equity	
		Contributed capital	16,000
		Retained earnings*	<u>17,200</u>
		Total stockholders' equity	<u>\$33,200</u>
Total assets	\$44,750	Total liabilities and stockholders' equity	\$44,750

*Unadjusted balance, \$10,300 + Net income, \$6,900 = Ending balance, \$17,200.

Req. 3

December 31, 20B Closing Entries:

(a)	Service revenue (-R)	48,000	
	Retained earnings (+SE)		48,000
(b)	Retained earnings (-SE)	41,100	
	Supplies expense (-E)		700
	Insurance expense (-E)		450
	Depreciation expense (-E)		3,000
	Wages expense (-E)		1,100
	Remaining expenses (not detailed) (-E)		32,900
	Income tax expense (-E)		2,950

AP4-9.

Req. 1, 2, 3, 5, and 6 T-accounts

Cash	Accounts Receivable	Supplies Inventory
Bal. 5 | b 18 a 20 | e 28 c 5 | f 3 d 56 | h 11 g 8 | k 10 j 3 Bal. 27 |	Bal. 4 | g 8 d 9 Bal. 5 |	Bal. 2 | l 8 i 10 Bal. 4 |
Small Tools Inventory	Equipment	Accumulated Depreciation
Bal. 6 | l 1 f 3 Bal. 8 |	b 18 Bal. 18 |	m 2 Bal. 2 |
Remaining Assets	Accounts Payable	Notes Payable
Bal. 9 | Bal. 9 |	h 11 | Bal. 7 e 7 i 10 Bal. 13 |	a 20 Bal. 20 |
Wages Payable	Interest Payable	Income Taxes Payable
o 3 Bal. 3 |	n 1 Bal. 1 |	p 4 Bal. 4 |
Deferred Revenue	Contributed Capital	Retained Earnings
j 3 Bal. 3 |	Bal. 15 c 5 Bal. 20 |	k 10 | Bal. 4 CE2 54 | CE1 65 Bal. 5 |
Service Revenue	Income Tax Expense	Interest Expense
CE1 65 | d 65 Bal. 0 |	p 4 | CE2 4 Bal. 0 |	n 1 | CE2 1 Bal. 0 |
Depreciation Expense	Remaining Expenses	
m 2 | CE2 2 Bal. 0 |	e 35 | l 9 | CE2 47 o 3 | Bal. 0 |	

AP4-9. (continued)

Req. 2

a.	Cash (+A)	20	
	Note payable (+L)		20
	Borrowed cash on 10% note, July 1, 20B.		
b.	Equipment (+A)	18	
	Cash (-A)		18
	Purchased equipment, July 1, 20B		
c.	Cash (+A)	5	
	Contributed capital (+SE)		5
	Sold capital stock for cash.		
d.	Cash (+A)	56	
	Accounts receivable (+A)	9	
	Service revenue (+R)		65
	Service revenues earned during 20B.		
e.	Remaining expenses (+E → -SE)	35	
	Accounts payable (+L)		7
	Cash (-A)		28
	Remaining expenses incurred during 20B.		
f.	Small tools inventory (+A)	3	
	Cash (-A)		3
	Purchased additional small tools inventory.		
g.	Cash (+A)	8	
	Accounts receivable (-A)		8
	Collected on customers' accounts.		
h.	Accounts payable (-L)	11	
	Cash (-A)		11
	Paid on accounts payable to suppliers.		
i.	Supplies inventory (+A)	10	
	Accounts payable (+L)		10
	Purchased services supplies for future use.		
j.	Cash (+A)	3	
	Deferred revenue (+L)		3

Deposit received for revenue not yet earned.

AP4-9. (continued)

k. Retained earnings (-SE).....	10	
Cash (-A).....		10
Declared and paid a cash dividend.		

Req. 3

l. Remaining expenses (+E → -SE).....	9	
Supplies inventory (-A).....		8
Small tools inventory (-A).....		1
To record supplies used (\$12 - 4) and small tools used (\$9 - 8).		
m. Depreciation expense (+E → -SE).....	2	
Accumulated depreciation (+XA → -A).....		2
To record depreciation (\$18 - \$2) ÷ 4 years × ½ year.		
n. Interest expense (+E → -SE).....	1	
Interest payable (+L).....		1
To accrue interest for July - December, 20B, (\$20 × 10% × 6/12).		
o. Remaining expenses (wages) (+E → -SE).....	3	
Wages payable (+L).....		3
To accrue wages incurred but not paid.		
p. Income tax expense (+E → -SE).....	4	
Income taxes payable (+L).....		4
To accrue income tax.		

AP4-9. (continued)

Req. 4

RUMOURS FURNITURE, INC.
Income Statement
For the Year Ended December 31, 20B
(in thousands)

Revenues:			
Service revenue			\$65
Expenses:			
Depreciation expense	\$ 2		
Interest expense	1		
Remaining expenses	47	50	
Pretax income		15	
Income tax expense		4	
Net income			<u>\$11</u>
Earnings per share			<u>\$0.63</u>
[\$11 ÷ ((15+20)÷2)]			

RUMOURS FURNITURE, INC.
Statement of Stockholders' Equity
For the Year Ended December 31, 20B
(in thousands)

	Contributed Capital	Retained Earnings	Total Stockholders' Equity
Balance, January 1, 20B	\$15	\$ 4	\$19
Additional stock issuance	5		5
Net income		11	11
Dividends declared		(10)	(10)
Balance, December 31, 20B	<u>\$20</u>	<u>\$ 5</u>	<u>\$25</u>

AP4-9. (continued)

RUMOURS FURNITURE, INC.
Balance Sheet
At December 31, 20B
(in thousands)

Assets:		Liabilities:	
Cash	\$ 27	Accounts payable	\$ 13
Accounts receivable	5	Notes payable	20
Supplies inventory	4	Wages payable	3
Small tools inventory	8	Interest payable	1
Equipment	\$18	Income taxes payable	4
Less: Accum. depr.	<u>2</u>	Deferred revenue	<u>3</u>
Remaining assets	9	Total liabilities	44
		Stockholders' Equity:	
		Contributed capital	\$20
		Retained earnings	<u>5</u>
		Total stockholders' equity	<u>25</u>
Total assets	<u>\$69</u>	Total liabilities and stockholders' equity	<u>\$69</u>

RUMOURS FURNITURE, INC.
Statement of Cash Flows
For the Period Ended December 31, 20B
(in thousands)

Cash from Operating Activities:		
Cash collected from customers (d, \$56 + g, 8 + j, 3)		\$ 67
Cash paid to suppliers and employees (e, \$28 + f, 3 + h, 11)	(42)	
Cash provided by operations		\$ 25
Cash from Investing Activities:		
Purchase of equipment (b)	(18)	
Cash used in investing activities		(18)
Cash from Financing Activities:		
Borrowing from bank (a)		20
Issuance of stock (c)		5
Payment of dividends (k)	(10)	
Cash provided by financing activities		15
Change in cash		22
Beginning cash balance, January 1, 20B		5
Ending cash balance, December 31, 20B		<u>\$ 27</u>

AP4-9. (continued)

Req. 5

December 31, 20B Closing Entries

1	Service revenue (-R).....	65	
	Retained earnings (+SE).....		65
	To close revenues.		
2	Retained earnings (-SE).....	54	
	Depreciation expense (-E).....		2
	Interest expense (-E).....		1
	Remaining expenses (-E).....		47
	Income tax expense (-E).....		4
	To close expenses.		

Req. 6

RUMOURS FURNITURE, INC.
Post-Closing Trial Balance
At December 31, 20B
(in thousands)

Account	Account Titles	Debit	Credit
01	Cash	\$27	
02	Accounts receivable	5	
03	Supplies inventory	4	
04	Small tools inventory	8	
05	Equipment	18	
06	Accumulated depreciation (equipment)		\$ 2
07	Remaining assets (not detailed)	9	
11	Accounts payable		13
12	Notes payable		20
13	Wages payable		3
14	Interest payable		1
15	Income taxes payable		4
16	Deferred revenue		3
21	Contributed capital (20,000 shares)		20
31	Retained earnings		5
35	Service revenue		0
40	Depreciation expense	0	
41	Income tax expense	0	
42	Interest expense	0	
43	Remaining expenses (not detailed)	0	
	Totals	\$71	\$71

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AP4-9. (continued)

Req. 7

(a)	Financial leverage	= Average total assets ÷ Average stockholders' equity = [(\$26+\$69)÷2] ÷ [(\$19+\$25)÷2] = \$47.5 ÷ \$22.0 = 2.16
(b)	Total asset turnover	= Sales ÷ Average total assets = \$65 ÷ \$47.5 = 1.37
(c)	Net profit margin	= Net income ÷ Sales = \$11 ÷ \$65 = 0.17 (17%)

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CASES AND PROJECTS

FINANCIAL REPORTING AND ANALYSIS CASES

CP4-1.

- At the end of the 1999 fiscal year, prepaid expenses were \$4,729 thousand. This information is disclosed on the balance sheet.
- The company reported \$956 thousand for accrued sales taxes. This information is disclosed in Note 5 regarding accrued expenses.
- Accrued Rent (L) would consist of the amount of rent expense that has been incurred by the end of the accounting period but which has not yet been paid. Accrued Compensation (L) would consist of the amount of salaries and wages expense owed to employees by the end of the accounting period but which will be paid in the next accounting period.
- The company paid \$8,843 thousand in income taxes during the 1999 fiscal year. This information is disclosed in Note 15 regarding supplemental cash flow information.
- Interest Income is related to the company's investments in marketable securities.
- The company's income statement accounts (revenues, expense, gains, and losses) would not appear on a post-closing trial balance. These accounts are temporary accounts that would have been closed to Retained Earnings.
- Prepaid Expenses is an asset account. As such, it is a permanent account that carries its ending balance into the next accounting period. It is not closed at the end of the period.
- The company reported basic earnings per share of \$0.89 for 1999, \$0.79 for 1998, and \$0.76 for 1997.

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CP4-1. (continued)

9.	1997:	Net Profit Margin	=	$\frac{\text{Net Income}}{\text{Sales}}$	=	$\frac{\$13,260}{\$156,414}$	=	0.085
	1998:	Net Profit Margin	=	$\frac{\text{Net Income}}{\text{Sales}}$	=	$\frac{\$13,880}{\$173,121}$	=	0.080
	1999:	Net Profit Margin	=	$\frac{\text{Net Income}}{\text{Sales}}$	=	$\frac{\$15,760}{\$208,969}$	=	0.075

Over the past three years, the company's net profit margin has steadily decreased. This suggests that the company is earning fewer profits from each dollar of sales and that closer management of its business (in terms of sales price or costs) may be required.

CP4-2.

- American Eagle Outfitters reported an advertising expense of \$16,431 thousand for 1999 (Note 2 under Advertising Costs). Urban Outfitters reported an advertising expense of \$4,486 thousand for 1999 (Note 1 under Advertising). Advertising expense would be part of the Selling, General, and Administrative Expenses on the income statement.
- American Eagle Outfitters incurred the higher percentage for 1999. American Eagle Outfitters' 1999 advertising expense represented 2.8% of 1999 sales (\$16,431 ÷ \$587,600 = 0.028). Urban Outfitters' 1999 advertising expense represented 2.1% of 1999 sales (\$4,486 ÷ \$208,969 = 0.021). This comparison cannot be performed for 1998 and 1997 because the exact amounts of Urban Outfitters' advertising expense for these years are not disclosed (they are described as immaterial).

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CP4-2. (continued)

3.	Industry Average	American Eagle Outfitters	Urban Outfitters
Advertising/Sales =	2.3%	2.8%	2.1%

American Eagle Outfitters' percentage of Advertising Expense to Net Sales is above the industry average while Urban Outfitters' percentage is below the industry average. As a percentage of sales, American Eagle Outfitters was spending more on advertising than the average company in the industry and more than Urban Outfitters. Urban Outfitters was spending less on advertising than the average company in the industry and less than American Eagle Outfitters. Although it is difficult to make any strong conclusions without any additional information, these results suggest that Urban Outfitters' advertising strategy is more effective than the average company in the industry. That is because they are generating more sales per dollar spent on advertising. American Eagle Outfitters' advertising strategy is less effective than the average company in the industry. That is because they are generating less sales per dollar spent on advertising.

4. American Eagle Outfitters expenses all advertising costs when incurred. Urban Outfitters expenses all advertising costs except for "direct response advertising" which is capitalized and amortized over its expected useful life.

	American Eagle Outfitters	Urban Outfitters
1997: Net Profit = Net Income	\$5,925 = 0.018	\$13,260 = 0.085
Margin Sales	\$326,404	\$156,414
1998: Net Profit = Net Income	\$19,537 = 0.048	\$13,880 = 0.080
Margin Sales	\$405,713	\$173,121
1999: Net Profit = Net Income	\$54,118 = 0.092	\$15,760 = 0.075
Margin Sales	\$587,600	\$208,969

While Urban Outfitters' Net Profit Margin has decreased slightly over time, American Eagle Outfitters' Net Profit Margin has increased dramatically over the same three-year period. American Eagle Outfitters appears to have increased profitability as it has grown in size, whereas Urban Outfitters has compromised its profitability in order to grow in size.

CP4-2. (continued)

6.	Industry Average	American Eagle Outfitters	Urban Outfitters
Net Profit Margin =	4.2%	9.2%	7.5%

Both American Eagle Outfitters' and Urban Outfitters' net profit margin are above the industry average. Both companies are performing better than the average company in their industry.

CP4-3.

- The court decided in favor of Tricon Global. Papa John's must stop using the slogan and pay Pizza Hut approximately \$470 thousand in damages.
- Papa John's has estimated the real costs of the case to total \$12 to \$15 million pretax. The article suggests that these costs are largely to replace the advertising slogan with a new advertising campaign and promotional materials.
- Following the announcement, Papa John's sales price did not change greatly. The article suggests that investors might have already anticipated the outcome of the lawsuit and related costs and incorporated those expectations into their estimate of share value. As such, when the news was announced (generally confirming these expectations), no additional stock price change would be needed. The article emphasizes focusing on the key value drivers of the long-term business—in Papa John's case, same-store sales growth—in order to judge investment decisions.

CP4-4.

Req. 1

Account	Unadjusted Trial Balance		Adjusted Trial Balance		Post-Closing Trial Balance	
	Debit	Credit	Debit	Credit	Debit	Credit
Cash	20,000		20,000		20,000	
Inventory, maintenance supplies	500		200		200	
Service equipment	90,000		90,000		90,000	
Accumulated depreciation, service equipment		18,000		27,000		27,000
Remaining assets	42,500		42,500		42,500	
Note payable, 8%		10,000		10,000		10,000
Interest payable				800		800
Income taxes payable				13,020		13,020
Wages payable				500		500
Unearned revenue				6,000		6,000
Contributed capital		56,000		56,000		56,000
Retained earnings		9,000		9,000		39,380
Service revenue		220,000		214,000		0
Expenses	160,000		183,620		0	
	313,000	313,000	336,320	336,320	152,700	152,700

Ending Retained Earnings = Beg., \$9,000 + Net income, (\$214,000 - 183,620)

CP4-4. (continued)

Req. 2

- To record the amount of supplies used during 20C, \$300, and to reduce the inventory account to the supplies remaining on hand at the end of 20C.
- To accrue interest expense for 20C (the interest is payable on January 2, 20D, computed as \$10,000 x 8% = \$800) and to record interest payable.
- To record service revenues collected in advance of being earned and to record the liability for those services yet to be performed, \$6,000.
- To record depreciation expense for 20C, \$9,000.
- To record 20C wages of \$500 that will be paid in 20D and to record that liability.
- To record 20C income tax and the related liability, \$13,020.

Req. 3

Closing entries on December 31, 20C:

(1) Service revenue (from the adjusted trial balance) (-R)	214,000	
Retained earnings (+SE).....		214,000
(2) Retained earnings (-SE).....	183,620	
Expenses (from the adjusted trial balance) (-E).....		183,620

Req. 4

Useful life of the equipment is \$90,000 ÷ \$9,000 = 10 years. Account indicates acquisition date of January 1, 20A. This answer assumes no residual value.

Req. 5

Pretax income	x	Average income tax rate	=	Income tax expense
(\$214,000 - 170,600)	x	?	=	\$13,020
\$43,400	x	?	=	\$13,020
		?	=	<u>30%</u>

Req. 6

Number of shares issued	x	Average issue price	=	Total issue amount
8,000	x	?	=	\$56,000
		?	=	<u>\$7.00 per share</u>

CP4-5.

Transaction A:

1. This transaction will affect Seneca's financial statements for 11 years (1/2 year in 20A, full year for years 20B through 20J, plus 1/2 year in 20K) in conformity with the matching principle.

2. Income statement:

Depreciation expense:	
20A: \$14,000 ÷ 10 years x 1/2 year	\$ 700
20B: \$14,000 ÷ 10 years	1,400

3. Balance sheet at December 31, 20C:

Assets:	
Office equipment	\$14,000
Less: Accumulated depreciation*	3,500
Carrying (book) value	<u>\$10,500</u>
*20A, \$700 + 20B, \$1,400 + 20C, \$1,400 = \$3,500.	

4. Adjusting entries for life of the asset:

	20A	20B through 20J	20K
Depreciation expense (+E).....	700	1,400	700
Accumulated depreciation (-A)	700	1,400	700

Proof: Total depreciation over life of the equipment:

First and last years at half the annual amount	
\$700 x 2 years	\$ 1,400
Nine years (B through J) at full annual amount	
\$1,400 x 9 years	<u>12,600</u>
Total accumulated depreciation (= cost)	<u>\$14,000</u>

CP4-5. (continued)

Transaction B:

1. This transaction will affect Seneca's financial statements for 2 years--20D and 20E--because four months' rent revenue was earned in 20D, and two months' rent revenue will be earned in 20E.

2. The 20D income statement should report rent revenue earned of \$16,000 (\$24,000 x 4/6). Occupancy was provided for only 4 months in 20D. This is in conformity with the revenue principle.

3. This transaction created an \$8,000 liability as of December 31, 20D, because at that date Seneca "owes" the renter two more months' occupancy for which it has already collected the cash.

4. Yes, an adjusting entry must be made to (a) increase the rent revenue account by \$16,000, and (b) to decrease the liability to \$8,000 representing the future occupancy owed (in conformity with the revenue principle). The entry would be:

December 31, 20D--Adjusting entry:	
Unearned rent revenue (-L)	16,000
Rent revenue (+R)	16,000
\$24,000 - \$16,000 = \$8,000.	

Transaction C:

1. This transaction will directly affect Seneca's financial statements for one year, 20D, with the expense incurred in 20D. The cash payment will be in 20E.

2. The \$7,500 should be reported as wage expense in the 20D income statement and as a liability on the 20D balance sheet. On January 5, 20E, the liability will be paid. Therefore, the 20E balance sheet will not be directly affected (except for the reduced cash balance which would have occurred anyway). The transaction will not directly affect the 20E income statement (unless the adjusting entry was not made).

3. Yes, an adjusting entry must be made to (a) record the \$7,500 as an expense in 20D (matching principle) and (b) to record the liability which will be paid in 20E. The entry is:

December 31, 20D--Adjusting entry:	
Wage expense (+E → -SE)	7,500
Wages payable (+L)	7,500

Note: On January 5, 20E, the liability, Wages Payable, \$7,500, will be paid. Wage expense for 20E will not include this \$7,500. The 20E related entry will debit (decrease) wages payable, and credit (decrease) cash, \$7,500.

CP4-5. (continued)

Transaction D:

1. Yes, service revenue of \$45,000 (i.e., \$60,000 x 3/4) should be recorded as earned by Seneca in conformity with the revenue principle. Service revenue is recognized as the service is performed.

2. Recognition of revenue earned but not collected by the end of 20D requires an adjusting entry. This adjusting entry is necessary to (a) record the revenue earned (to be reported on the 20D income statement) and (b) record the related account receivable (an asset to be reported on the 20D balance sheet). The adjusting entry on December 31, 20D is:

December 31, 20D--Adjusting entry:	
Accounts receivable (+A)	45,000
Service revenue (+R)	45,000
(\$60,000 total price x 3/4 completed)	

3. February 15, 20E--Completion of the last phase of the service contract and cash collected in full:

Cash (+A)	60,000
Accounts receivable (-A)	45,000
Service revenue (+R)	15,000

CP4-6.

Req. 1

Adjusting entries:

(a) Expenses (insurance) (+E → -SE)	1	
Prepaid insurance (-A)	1	
To adjust for expired insurance (from account 13).		
(b) Rent receivable (+A)	2	
Revenues (rent) (+R)	2	
To adjust for rent revenue earned but not yet collected (from account 14).		
(c) Expenses (depreciation) (+E → -SE)	11	
Accumulated depreciation, long-lived assets (+XA → -A)	11	
To adjust for annual depreciation (shown in account 16).		
(d) Expenses (wages) (+E → -SE)	3	
Wages payable (+L)	3	
To adjust for wages earned but not recorded or paid (from account 19).		
(e) Income taxes expense (+E → -SE)	5	
Income taxes payable (+L)	5	
To adjust for income tax expense, (\$103 - 83) x 25% (shown in account 20).		
(f) Revenues (rent) (-R)	4	
Unearned rent revenue (+L)	4	
To adjust for rent revenue collected but unearned (from account 21).		

Req. 2

Closing entries (from the adjusted trial balance):		
1 Revenues (-R)	103	
Retained earnings (+SE)	103	
2 Retained earnings (-SE)	88	
Expenses (-E)	83	
Income tax expense (-E)	5	

C4P-6. (continued)

Req. 3

- (a) Shares outstanding: 1,000 shares (given).
- (b) Estimated useful life of long-lived assets:
 $(\$46,000 \text{ cost} - \$2,000 \text{ residual value}) \div \$11,000 \text{ annual depreciation} = \underline{4 \text{ years}}$.
- (c) Interest expense: $\$20,000 \times 10\% = \underline{\$2,000}$.
- (d) Ending balance in retained earnings:
 Unadjusted balance, $\$(3,000) + \text{Net income}, \$15,000 = \underline{\$12,000}$.
- (e) Average income tax rate: $\$5,000 \text{ income tax expense} \div (\$103,000 \text{ revenues} - \$83,000 \text{ total expenses}) = \underline{25\%}$.
- (f) Rent receivable – report on the balance sheet as an asset.
 Unearned rent revenue – report on the balance sheet as a liability (for future occupancy "owed").
- (g) Net income of \$15,000 was computed on the basis of **accrual** accounting concepts. Revenue is recognized when earned and expenses recorded when incurred regardless of the timing of the respective cash flows. Cash inflows, in addition to certain revenues, were from numerous sources such as the issuance of capital stock, borrowing, and revenue collected in advance. Similarly, cash outflows were due to numerous transactions in addition to certain expenses such as the purchase of operational and other assets, prepaid insurance, and dividends to stockholders.
- (h) EPS: $\$15,000 \div 1,000 \text{ shares (per 1 above)} = \underline{\$15.00 \text{ per share}}$.
- (i) Sale price per share: $\$30,000 \text{ contributed capital} \div 1,000 \text{ shares} = \underline{\$30 \text{ per share}}$.
- (j) The prepaid insurance account reflected a \$2,000 balance before the adjustment (decrease) of \$1,000. Therefore, it appears that the policy premium was paid on January 1, 20A, and it was prepaid for two years (20A and 20B). Other possibilities might be (a) a 12-month policy purchased on July 1, 20A, or (b) a 2-month policy purchased on Dec. 1, 20A. In any case, one-half of the premium has expired.
- (k) Net profit margin: $\$15,000 \text{ net income} \div \$103,000 \text{ revenues} = \underline{0.146 (14.6\%)}$.

CP4-7.

Req. 1

**HALCYON STRESS REDUCTION
Income Statement
For the Year Ended December 31, 20F**

Items	Cash Basis Per Place's Statement	Explanation of Changes	Corrected Basis
Revenues:			
Therapy fees	\$115,000	See * below.	\$ 92,000
Expenses:			
Office rent	13,000	Exclude rent for Jan. 20G (\$13,000 + 13)	12,000
Utilities	360		360
Telephone	2,200	Add December 20F bill of \$1,400	3,600
Office salaries	22,000	Add December 20F salary (\$18,000 + 12)	23,500
Office supplies	900	Supplies used in 20F (\$900 + 125 - 200)	825
Miscellaneous	2,400	No change	2,400
Depreciation		\$5,000 cost + 10 years = \$500 for 20F	500
Total expenses	\$ 40,860		\$ 43,185
Net income	\$ 74,140		\$ 43,185

* Cash collected for therapy fees \$115,000
 Fees earned in prior years -32,000
 Fees earned in 20F but not yet collected + 9,000
 Fees earned in 20F \$ 92,000

Req. 2

- (1) Net income was overstated by \$25,325 because of inappropriate recognition of revenue (overstated by \$23,000) and expenses (understated by \$2,325). Revenue should be recognized when earned, not when the cash is collected. Similarly, expenses should be matched against revenue in the period when the services or materials were used (including depreciation expense).
- (2) Some other items the parties should consider in the pricing decision:
 - (a) A correct balance sheet at December 31, 20F.
 - (b) Collectibility of any revenues of prior years (if they are to be sold with the business).
 - (c) Any liabilities of the practice to be assumed by the purchaser.
 - (d) Current employees – how will they be affected?
 - (e) Adequacy of the rented space – is there a long-term noncancellable lease?
 - (f) Characteristics of Place's massage therapy practice.
 - (g) Expected future cash flows of the business. What is the present value of those expectations?

CRITICAL THINKING CASES

CP4-8.

Req. 1

20A	Adjusting Entries	Debit	Credit
12/31			
(a)	Maintenance expense (+E → -SE)..... Inventory of maintenance supplies (-A)..... To record supplies used (\$6,000 - \$1,800 = \$4,200).	4,200	4,200
(b)	Other expenses (+E → -SE)..... Prepaid insurance (-A)..... To record expired insurance at December 31, 20A.	2,000	2,000
(c)	Depreciation expense (+E → -SE)..... Accumulated depreciation (+XA → -A)..... To record depreciation for one year (\$40,000 + 5 years = \$8,000).	8,000	8,000
(d)	Salary expense (+E → -SE)..... Salaries payable (+L)..... To record salaries earned but not paid.	2,200	2,200
(e)	Transportation revenue (-R)..... Unearned transportation revenue (+L)..... To record unearned transportation revenue collected in advance.	7,000	7,000
(f)	Income tax expense (+E → -SE)..... Income tax payable (+L)..... To record 20A income tax computation: Transportation revenue: \$85,000 - 7,000 = \$78,000 Expenses: \$47,000 + 4,200 + 2,000 + 8,000 + 2,200 = <u>63,400</u> Net income <u>\$14,600</u> Income tax expense: \$14,600 x 25% = <u>\$ 3,650</u>	3,650	3,650

CP4-8. (continued)

Req. 2

**MEADVILLE CORPORATION
Corrections to 20A Financial Statements**

	Amounts Reported	Changes Plus	Changes Minus	Correct Amounts
20A Income Statement:				
Revenue:				
Transportation revenue	\$ 85,000	e	7,000	\$ 78,000
Expenses:				
Salaries expense	17,000	d	2,200	19,200
Maintenance expense	12,000	a	4,200	16,200
Other expenses	18,000	b	2,000	20,000
Depreciation expense	0	c	8,000	8,000
Income tax expense	0	f	3,650	3,650
Total expenses	\$ 47,000			\$ 67,050
Net income	\$ 38,000			\$ 10,950

December 31, 20A Balance Sheet

Assets:				
Cash	\$ 2,000			\$ 2,000
Receivables	3,000			3,000
Inventory of maintenance supplies	6,000	a	4,200	1,800
Prepaid insurance	4,000	b	2,000	2,000
Equipment	40,000			40,000
Less: Accumulated deprec.	0	c	8,000	(8,000)
Remaining assets	27,000			27,000
Total assets	\$82,000			\$67,800
Liabilities:				
Accounts payable	\$ 9,000			\$ 9,000
Salaries payable	0	d	2,200	2,200
Unearned transportation revenue	0	e	7,000	7,000
Income tax payable	0	f	3,650	3,650
Total liabilities	\$ 9,000			\$21,850
Stockholders' Equity				
Contributed capital	35,000			35,000
Retained earnings	38,000			10,950
Total stockholders' equity	\$73,000			\$45,950
Total liabilities and stockholders' equity	\$82,000			\$67,800

CP4-8. (continued)

Req. 3

Omission of the adjusting entries caused:

- (a) Net income to be overstated by \$27,050.
 (b) Total assets to be overstated by \$14,200.

Req. 4

(a) Earnings per share:

Unadjusted – \$38,000 net income ÷ 10,000 shares = \$3.80 per share
 Adjusted – \$10,950 net income ÷ 10,000 shares = \$1.095 per share

(b) Net profit margin:

Unadjusted – \$38,000 net income ÷ 85,000 sales = 44.7%
 Adjusted – \$10,950 net income ÷ 78,000 sales = 14.0%

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The solutions to these cases will depend on the company and/or accounting period selected for analysis.

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Solutions Manual**CP4-8. (continued)**

Req. 5

(today's date)

To the Stockholders of Meadville Corporation:

We regret to inform you that your request for a \$20,000 loan has been denied.

Our review showed that various adjustments were required to the original set of financial statements provided to us. The original (unadjusted) financial statements overstated net income for 20A by \$27,050 (i.e., \$38,000 - \$10,950). This overstatement was caused by incorrectly including \$7,000 revenue collected in advance that should have been deferred to 20B. Further, all of the expenses were understated and income tax expense had been incorrectly excluded.

Total assets were overstated by \$14,200 (i.e., \$82,000 - \$67,800). The inventory of maintenance supplies was overstated by \$4,200, prepaid insurance was overstated by \$2,000, and the net book value of the equipment was overstated by \$8,000 because annual depreciation was not properly recognized.

A review of key financial ratios indicates that the adjustments caused earnings per share and net profit margin to decline. Net profit margin declined from 44.7% to 14.0%. The adjusted ratios, however, would be compared to those of other start-up companies in the same industry.

We require that there be sufficient collateral pledged against the loan before we can consider it. The current market value of the equipment may be able to provide additional collateral against which the loan could be secured. Your personal investments may also be considered viable collateral if you are willing to sign an agreement pledging these assets as collateral for the loan. This is a common requirement for small start-up businesses.

If you would like us to reconsider your application, please provide us the current market values of any assets you would pledge as collateral.

Regards,
 (your name)

Loan Application Department,
 Your Bank

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Chapter 5 Communicating and Interpreting Accounting Information

ANSWERS TO QUESTIONS

- The primary responsibility for the accuracy of the financial records and conformance with Generally Accepted Accounting Principles (GAAP) of the information in the financial statements rests with management, normally the CEO and CFO. Independent auditors or CPAs are responsible for conducting an examination of the statements in accordance with Generally Accepted Auditing Standards, and based on that examination, attesting to the fairness of the financial presentations in accordance with GAAP. Both management and the auditors assume a financial responsibility to users of the statements.
- Financial analysts*, who normally work for brokerage and investment banking houses, mutual funds, and investment advisory services, gather extensive financial and nonfinancial information about a company, on which they base forecasts and stock purchase and sale recommendations. *Private investors* include individuals who purchase shares in companies, often on the basis of recommendations from financial analysts. *Institutional investors* are managers of pension, mutual, endowment, and other funds that invest on behalf of others.
- Information services provide a wide variety of financial and nonfinancial information to analysts and investors, often on-line or on CD-ROM. These services are normally the first source where important financial information such as quarterly earnings announcements are available.
- To be useful, information must be relevant; that is, it must be timely and have predictive and/or feedback value. However, if the information is not reliable (accurate, unbiased, and verifiable) it will not be relied upon, and thus will not be useful.
- Income statement—Accrual basis required by GAAP.
 - Balance sheet—Accrual basis required by GAAP.
 - Statement of cash flows—Cash basis required by GAAP.

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- Private companies normally issue quarterly and annual reports, both of which are normally simple photocopied reports. The quarterly reports normally present unaudited summary income statement and balance sheet information. The annual reports include the four basic financial statements, related notes, and the auditors' opinion if the statements are audited.
- Public companies issue quarterly press releases, quarterly reports, and annual reports to shareholders and Forms 10Q (quarterly reports), 10K (annual reports), and 8-K (special events) reports to the SEC. Press releases include a summary of the quarterly report information and are the first announcement of quarterly financial information. The quarterly reports normally present unaudited summary income statement and balance sheet information along with an abbreviated management discussion and analysis. Annual reports are often elaborate reports including extensive discussions and color photos. The financial section includes: (1) summarized financial data for a 5- or 10-year period; (2) management's discussion and analysis of financial condition and results of operations; (3) the four basic financial statements; (4) footnotes (notes); (5) report of independent accountants (auditor's opinion) and sometimes the report of management responsibility; (6) recent stock price information; (7) summaries of the unaudited quarterly financial data; and (8) listings of directors and officers of the company and relevant addresses. The Form 10-Q and 10-K, provide more detailed information than the quarterly and annual reports including additional disclosures not included in those reports, and are normally issued after those reports. The 8-K is issued irregularly when special events such as a change in auditors occur.
- The five major classifications on the income statement are: (a) continuing operations, (b) discontinued operations, (c) extraordinary items, (d) cumulative effect of changes in accounting methods, (e) earnings per share (EPS).
- Extraordinary items are reported on the income statement separately. They are items that are *both unusual and infrequent*. They are set out separately to aid the user in evaluating the profit performance of the business. Inclusion of extraordinary items in the regularly occurring revenue and expense categories would lead the user to believe that they are normal and will recur often in the future, which would be misleading.
- The six major classifications on the balance sheet are: (a) current assets, (b) noncurrent assets, (c) current liabilities, (d) long-term liabilities, (e) contributed capital and (f) retained earnings.

- Property, plant, and equipment are reported on the balance sheet. *Property, plant, and equipment* are those assets held by the business not for resale but use in operating the business, such as a delivery truck. (a) Property, plant, and equipment are reported at their acquisition *cost* which represents the amount of resources expended in acquiring them. (b) Over their period of use, they are "depreciated" because of being worn out (used up) or becoming obsolete in carrying out the function for which they were acquired. A portion of the cost of this effect is known as *depreciation expense*. A certain amount of depreciation is reported each period as an *expense* on the income statement and the total amount of depreciation on the asset from the date it was acquired up to the date of the financial statement is known as *accumulated depreciation*. (c) Cost minus accumulated depreciation equals *net book value*, as reported on the balance sheet. Net book value (sometimes also called *book value* or *carrying value*) does not represent the current market value of the asset but rather the original cost of it less the amount of that cost that has been measured as depreciation expense for all of the periods since the asset was acquired.
- The major classifications of stockholders' equity are: (1) contributed capital, which represents the stockholders' investments and (2) retained earnings, which represent the earnings of the company to date less any dividends paid to the owners. Contributed capital is often split between the account common stock (which consists of a nominal legal amount called par value) and paid-in capital.
- The three major classifications on the Statement of Cash Flows are (a) cash from operating activities, (b) cash from investing activities, and (c) cash from financing activities.
- The three major categories of footnotes are: (1) descriptions of accounting rules applied to the company's statements, often called significant accounting policies (e.g., the depreciation method applied to property, plant, and equipment), (2) additional details about financial statement numbers (e.g., sales by geographic region), and (3) relevant financial information not listed on the statements (e.g., the existence of a bank line of credit).
- Return on equity (ROE)* is a ratio measure defined as net income divided by average stockholders' equity. It measures how much the firm earned for each dollar of stockholders' investment. A *return on equity analysis* provides an overall framework for evaluating company performance by breaking down ROE into its three determinants: net profit margin, asset turnover, and financial leverage. Together, these indicate why ROE differs from prior levels or that of competitors, and provide insights into strategies to improve ROE in future periods.

Authors' Recommended Solution Time
(Time in minutes)

Mini-exercises		Exercises		Problems		Alternate Problems		Cases and Projects	
No.	Time	No.	Time	No.	Time	No.	Time	No.	Time
1	5	1	10	1	30	1	40	1	30
2	5	2	10	2	15	2	15	2	30
3	10	3	15	3	40	3	20	3	40
4	10	4	10	4	15	4	40	4	30
5	10	5	20	5	20	5	35	5	30
6	10	6	30	6	30			6	20
7	10	7	10	7	40			7	20
8	10	8	10	8	30			8	45
		9	10	9	30			9	40
		10	15	10	35			10	*
		11	12					11	*
		12	20					12	*
		13	20					13	*
		14	25					14	*
		15	20					15	*
		16	20					16	*
		17	20					17	*
		18	25					18	*
		19	30					19	*
								20	*

* Due to the nature of these cases and projects, it is very difficult to estimate the amount of time students will need to complete the assignment. As with any open-ended project, it is possible for students to devote a large amount of time to these assignments. While students often benefit from the extra effort, we find that some become frustrated by the perceived difficulty of the task. You can reduce student frustration and anxiety by making your expectations clear. For example, when our goal is to sharpen research skills, we devote class time discussing research strategies. When we want the students to focus on a real accounting issue, we offer suggestions about possible companies or industries.

MINI-EXERCISES

M5-1.

Players	Definitions
C (1) CEO and CFO	A. Adviser who analyzes financial and other economic information to form forecasts and stock recommendations.
D (2) Independent auditor	B. Institutional and private investors and creditors (among others).
B (3) Users	C. Chief executive officer and chief financial officer who have primary responsibility for the information presented in financial statements.
A (4) Financial analyst	D. Independent CPA who examines financial statements and attests to their fairness.

M5-2.

No.	Title
2	Annual report
3	Form 10-K
1	Earnings press release

M5-3.

Elements of Financial Statements	Financial Statements
B (1) Liabilities	A. Income statement.
C (2) Cash from operating activities	B. Balance sheet.
A (3) Losses	C. Cash flow statement
B (4) Assets	D. None of the above.
A (5) Revenues	
C (6) Cash from financing activities	
A (7) Gains	
B (8) Owners' equity	
A (9) Expenses	
D (10) Assets owned by stockholder	

M5-4.

Transaction	Current Assets	Gross Profit	Current Liabilities
a.	+	+	NE
b.	NE	NE	+

The effects of the transactions can be seen by making the related journal entries and using CA, CL, R, and E to denote current asset, current liability, revenue, and expense, respectively.

a.	Accounts receivable (CA)	100	
	Sales revenue (R)		100
	Cost of goods sold (E)	60	
	Inventory (CA)		60

Note that Gross Profit increases (by \$40) since it is defined as Sales (increased by \$100) less Cost of Goods Sold (increased by only \$60).

b.	Advertising expense (E)	10	
	Accounts payable (CL)		10

Note that Advertising Expense is not included in Cost of Goods Sold and, hence, has no effect on Gross Profit.

M5-5.

Assets		Liabilities	Stockholders' Equity	
a.)	Accounts Receivable	+500	Sales Revenue	+500
	Inventory	-360	Cost of Goods Sold	-360
b.)	Cash	+90,000	*Common stock	+10,000
			**Paid-in capital	+80,000

*\$1 par value x 10,000 shares

**\$90,000 cash - \$10,000 common stock

M5-6.

a.	Accounts receivable (A)	500	
	Sales revenue (R)		500
	Cost of goods sold (E)	360	
	Inventory (A)		360
b.	Cash (A)	90,000	
	Common stock (\$1 par value x 10,000 shares) (SE)		10,000
	Paid-in capital (\$90,000 cash - \$10,000 common stock) (SE)		80,000

M5-7.

Cost (purchased on January 1, 20A)	\$5,000
Accumulated depreciation at December 31, 20C	
Depreciation expense = $\frac{\$5,000 \text{ cost} - \$500 \text{ salvage value}}{10 \text{ years}}$	= \$450
Accumulated depreciation = \$450 annual depreciation expense x 3 yrs =	1,350
Net book value at December 31, 20C	<u>\$3,650</u>

M5-8.

$$\text{Return on equity (ROE)} = \frac{\text{Net income}}{\text{Avg stockholders' equity}} = \frac{85}{(800+750)/2} = \frac{85}{775} = 0.11$$

Return on equity (ROE) measures how much the firm earned for each dollar of stockholders' investment.

EXERCISES

E5-1.

Players	Definitions
<u>E</u> (1) SEC	A. Adviser who analyzes financial and other economic information to form forecasts and stock recommendations.
<u>D</u> (2) Independent auditor	B. Financial institution or supplier who lends money to the company.
<u>H</u> (3) Institutional investor	C. Chief Executive Officer and Chief Financial Officer who have primary responsibility for the information presented in financial statements.
<u>C</u> (4) CEO and CFO	D. Independent CPA who examines financial statements and attests to their fairness.
<u>B</u> (5) Creditor	E. Securities and Exchange Commission which regulates financial disclosure requirements.
<u>A</u> (6) Financial analyst	F. A company that gathers, combines, and transmits (paper and electronic) financial and related information from various sources.
<u>G</u> (7) Private investor	G. Individual who purchases shares in companies.
<u>F</u> (8) Information service	H. Manager of pension, mutual and endowment funds that invest on the behalf of others.

E5-2.

Information Release	Definition
<u>B</u> (1) Annual report	A. Written public news announcement that is normally distributed to major news services.
<u>F</u> (2) Form 8-K	B. Report containing the four basic statements for the year, related notes, and often statements by management and auditors.
<u>A</u> (3) Press release	C. Brief unaudited report for quarter normally containing summary income statement and balance sheet (unaudited).
<u>E</u> (4) Form 10-Q	D. Annual report filed by public companies with the SEC that contains additional detailed financial information.
<u>C</u> (5) Quarterly report	E. Quarterly report filed by public companies with the SEC that contains additional unaudited financial information.
<u>D</u> (6) Form 10-K	F. Report of special events (e.g., auditor changes, mergers) filed by public companies with the SEC.

E5-3.

Information Item	Report
<u>A, F</u> (1) Summarized financial data for 5- or 10-year period.	A. Annual Report
<u>C</u> (2) Initial announcement of quarterly earnings.	B. Form 8-K
<u>B</u> (3) Announcement of a change in auditors.	C. Press Release
<u>D</u> (4) Complete quarterly income statement, balance sheet and cash flow statement.	D. Form 10-Q
<u>A, F</u> (5) The four basic financial statements for the year.	E. Quarterly Report
<u>E</u> (6) Summarized income statement information for the quarter.	F. Form 10-K
<u>F</u> (7) Detailed discussion of the company's competition.	G. None of the above.
<u>A, F</u> (8) Notes to financial statements.	
<u>A, F</u> (9) A description of those responsible for the financial statements.	
<u>C</u> (10) Initial announcement of hiring of new vice president for sales.	

E5-4.

No.	Title
<u>6</u>	Current liabilities
<u>7</u>	Long-term liabilities
<u>2</u>	Long-term investments
<u>4</u>	Intangible assets
<u>3</u>	Property, plant, and equipment
<u>1</u>	Current assets
<u>9</u>	Retained earnings
<u>8</u>	Contributed capital
<u>5</u>	Other noncurrent assets

E5-5.

**Compaq Computer Corporation
Consolidated Balance Sheet
December 31, 20A
(in millions)**

ASSETS	
Current assets:	
Cash and cash equivalents	\$ 627
Accounts receivable, net	1,377
Inventories	1,123
Prepaid expenses	164
Total current assets	3,291
Noncurrent assets:	
Property, plant, and equipment, less accumulated depreciation	779
Other noncurrent assets	14
Total assets	<u>\$4,084</u>
LIABILITIES	
Current liabilities:	
Accounts payable	\$ 637
Income taxes payable	69
Other current liabilities	538
Total current liabilities	1,244
Long-term liabilities:	
Deferred income taxes (noncurrent)	186
Total liabilities	1,430
STOCKHOLDERS' EQUITY:	
Common stock and capital in excess of par value	586
Retained earnings	2,068
Total stockholders' equity	2,654
Total liabilities and stockholders' equity	<u>\$4,084</u>

E5-6.

Req. 1.

**Marvel Entertainment Group
Consolidated Balance Sheet
December 31, 20A
(in millions)**

ASSETS	
Current assets:	
Cash	\$ 17.0
Accounts receivable, net.....	77.9
Inventories	23.2
Deferred income taxes (current)	8.3
Prepaid expenses and other	6.1
Total current assets	\$ 132.5
Noncurrent assets:	
Property, plant and equipment, net	12.4
Goodwill, net	274.6
Trademarks and other intangibles, net	24.4
Investment in and advances to Toy Biz	14.2
Other assets (noncurrent)	13.9
Total noncurrent assets	339.5
Total assets	<u>\$ 472.0</u>
LIABILITIES	
Current liabilities:	
Current portion of long-term debt	\$ 45.1
Accounts payable	19.9
Accrued expenses and other	44.5
Total current liabilities	\$ 109.5
Long-term liabilities:	
Long-term debt	205.1
Due to former stockholders of Fleer (long-term)	0.1
Other long-term liabilities	10.0
Total liabilities	\$ 324.7
STOCKHOLDERS' EQUITY	
Common Stock, \$.01 par value; 250,000,000 shares authorized, 97,642,992 shares issued and outstanding at December 31, 20A	
Additional paid-in capital	1.0
Retained earnings (including cumulative translation adjustment)	47.0
Total stockholders' equity	99.3
Total liabilities and stockholders' equity	147.3
	<u>\$ 472.0</u>

E5-6. (continued)

Req. 2.

In each case, the term "net" means that the account is reported after the balance in the related contra account has been subtracted. Accounts receivable, net means that the allowance for doubtful accounts contra account has been subtracted. Goodwill, net and Trademarks and other intangibles, net mean that the accumulated amortization contra account has been subtracted. Property, plant and equipment, net means that the accumulated depreciation contra account has been subtracted.

E5-7.

	20B	20C	20D	20E
Oven (at cost)	\$6,800	\$6,800	\$6,800	\$6,800
Less: Accumulated depreciation	1,200	2,400	3,600	4,800
Book or carrying value	<u>\$5,600</u>	<u>\$4,400</u>	<u>\$3,200</u>	<u>\$2,000</u>

Depreciation expense per year = (Cost - residual value) ÷ useful life
= (\$6,800 - \$2,000) ÷ 4 years = \$1,200 per year

E5-8.

Assets	Liabilities	Stockholders' Equity
Cash +599,000,000		*Common stock +5,000,000
		**Paid-in capital +594,000,000

*NLG 0.50 × 10,000,000 shares
**NLG 599,000,000 - 5,000,000

E5-9.

Cash (A)	96,000	
Common stock (\$.033 × 12,000 shares) (SE).....		396
Paid-in capital (\$96,000 - 396) (SE).....		95,604

E5-10.

Cash (A)	25,888,000	
Common stock (\$169,000 - 140,000) (SE)		29,000
Paid-in capital (\$57,807,000 - 31,948,000) (SE)		25,859,000
Retained earnings (SE)	1,923,000	
Cash (A)		1,923,000
Beginning RE + Net income - Dividends = Ending RE		
Dividends = Beginning RE + Net income - Ending RE		
Dividends = \$17,662,000 + 42,862,000 - 58,601,000 = \$1,923,000		

E5-11.

Terms	Definitions
E (1) Cost of goods sold	A. Sales revenue minus cost of goods sold.
G (2) Interest expense	B. Item that is both unusual and infrequent.
B (3) Extraordinary item	C. Sales of services for cash or on credit.
C (4) Service revenue	D. Revenues + Gains - Expenses - Losses including effects of discontinued operations, extraordinary items, and cumulative effects of accounting changes (if any).
F (5) Income tax expense on operations	E. Amount of resources used to purchase or produce the goods that were sold during the reporting period.
I (6) Income before extraordinary items	F. Income tax on revenues minus operating expenses.
D (7) Net income	G. Cost of money (borrowing) over time.
A (8) Gross margin on sales	H. Net income divided by average shares outstanding.
H (9) EPS	I. Income before unusual and infrequent items and the related income tax.
J (10) Operating expenses	J. Total expenses directly related to operations.
K (11) Pretax income from operations	K. Income before all income tax and before discontinued operations, extraordinary items, and cumulative effects of accounting changes (if any).
	L. None of the above.

E5-12.

	Case A	Case B	Case C	Case D	Case E
Sales revenue	\$900	\$700	\$410	\$1,190*	\$750*
Cost of goods sold	500*	380	200*	500	310
Gross margin	400	320*	210*	690*	440
Operating expenses:					
Selling expense	50*	150	80	400	250
Administrative expense	150	80*	60	100	80
Total expenses	200*	230*	140*	500*	330*
Pretax income	200	90	70*	190	110*
Income tax expense	30*	30	20	40	30
Net income	\$170	\$60*	\$50	\$150*	\$80

*Amounts not given in the exercise.

E5-13.

VILLAGE CORPORATION
Income Statement
For the Year Ended, December 31, 20B

	Computations in Order	
Sales revenue	Given	\$70,000
Cost of goods sold (a)	\$70,000 - \$24,500	45,500
Gross profit	Given	24,500
Operating expenses:		
Selling expense	Given	\$8,000
Administrative expense (c)	\$12,500 - \$8,000	4,500
Total operating expenses (b)	\$24,500 - \$12,000	12,500
Pretax income	Given	12,000
Income tax expense (d)	\$12,000 x 30%*	3,600
Net income (e)	\$12,000 - \$3,600	\$8,400

Earnings per share (\$8,400 ÷ 3,000 shares*) \$2.80

*Given

E5-15.

Transaction	Current Assets	Gross Profit	Current Liabilities
a.	+\$140.6	+\$140.6	NE
b.	+\$306.5	NE	+\$306.5
c.	-\$10	NE	NE

The effects of the transactions can be seen by making the related journal entries and using CA, CL, R, and E to denote current asset, current liability, revenue, and expense, respectively.

a.	Accounts receivable (CA)	501.0	
	Sales revenue (R)		501.0
	Cost of goods sold (E)	360.4	
	Inventory (CA)		360.4
	Note that Gross Profit increases (by \$140.6) since it is defined as Sales (increased by \$501.0) less Cost of Goods Sold (increased by only \$360.4).		
b.	Cash (CA)	306.5	
	Notes payable (CL)		306.5
c.	Research and development expense (E)	10	
	Cash (CA)		10
	Note that Research and Development Expense is not included in Cost of Goods Sold and, hence, has no effect on Gross Profit.		

E5-16.

Transaction	Current Assets	Gross Profit	Current Liabilities	Cash Flow from Operating Activities
a.	NE	NE	NE	+
b.	-	NE	-	NE

The effects of the transactions can be seen by making the related journal entries and using CA and CL to denote current asset and current liability, respectively.

a.	Cash (CA)	32.2	
	Accounts receivable (CA)		32.2
b.	Notes payable (CL)	2.1	
	Cash (CA)		2.1

Note that repayment of debt is a financing activity.

E5-14.

Req. 1.

KIMBERLY APPLIANCES, INCORPORATED
Income Statement
For the Year Ended December 31, 20D

	Computations in Order	
Sales revenue	Given	\$120,000
Cost of goods sold (a)	\$120,000 - \$48,000 (given)	72,000
Administrative expense	Given	10,000
Selling (distribution) expense	Given	18,000
Income before income taxes		20,000
Income tax expense (b)	25%* x \$20,000	5,000
Net income (c)	\$120,000 - 72,000 - 10,000 - 18,000 - \$5,000	\$15,000

Earnings per share (\$15,000 ÷ 2,000 shares*) = \$7.50

*Given

Req. 2.

KIMBERLY APPLIANCES, INCORPORATED
Income Statement
For the Year Ended December 31, 20D

	Computations in Order	
Sales revenue	Given	\$120,000
Cost of goods sold (a)	\$120,000 - \$48,000	72,000
Gross profit	Given	48,000
Operating expenses:		
Administrative expense	Given	\$10,000
Selling expense	Given	18,000
Total operating expenses (b)	\$10,000 + \$18,000	28,000
Income before income taxes (c)	\$48,000 - \$28,000	20,000
Income tax expense (d)	25%* x \$20,000	5,000
Net income (e)	\$20,000 - \$5,000	\$15,000

Earnings per share (\$15,000 ÷ 2,000 shares*) = \$7.50

*Given

E5-17.

BLACKWELL CORPORATION
Statement of Cash Flows
For the Year Ended December 31, 20A

From Operating Activities		
Net income	\$18,000	
Increase in accounts receivable	(10,000)	
Decrease in inventory	2,000	
Decrease in accounts payable	(4,000)	
Cash flows from operating activities		\$ 6,000
From Investing Activities		
Purchased a new delivery truck	\$(12,000)	
Purchased land	(36,000)	
Cash flows from investing activities		(48,000)
From Financing Activities		
Borrowed cash on three-year note	\$ 25,000	
Issued stock for cash	22,000	
Cash flows from financing activities		47,000
Net cash inflows for the year		\$ 5,000
Beginning cash balance		36,000
Ending cash balance		\$ 41,000

E5-18.
Req. 1.

	Current Year	Prior Year
Net income (given)	\$31,185 = 0.09	\$64,150 = 0.19
Average Shareholders' Equity (given)	\$349,211	\$338,092

The decrease in ROE from 0.19 in the prior year to 0.09 in the current year means that the firm earned \$0.10 less for each \$1 dollar of stockholders' investment.

Req. 2.

ROE Analysis	Current Year	Prior Year
Net Income	\$31,185 = 0.02	\$64,150 = 0.05
Net Sales	\$1,371,375	\$1,263,629
x Net Sales	\$1,371,375 = 1.50	\$1,263,629 = 1.49
Average Total Assets	\$913,647	\$848,551
x Average Total Assets	\$913,647 = 2.62	\$848,551 = 2.51
Average Shareholders' Equity	\$349,211	\$338,092
Return on Equity	0.09*	0.19

The decrease in ROE is caused by the decrease in net profit margin (from 0.05 in the prior year to 0.02 in the current year). This decrease is magnified through their asset turnover and high financial leverage.

*Note that multiplying the above numbers yields 0.08 because of rounding error.

E5-19.
Req. 1.

	Current Year	Prior Year
Net income (given)	\$26,853 = 0.12	\$18,614 = 0.09
Average Shareholders' Equity (given)	\$232,988	\$196,352

The increase in ROE from 0.09 in the prior year to 0.12 in the current year means that the firm earned \$0.03 more for each \$1 dollar of stockholders' investment.

Req. 2.

ROE Analysis	Current Year	Prior Year
Net Income	\$26,853 = 0.05	\$18,614 = 0.05
Net Sales	\$508,784	\$360,052
x Net Sales	\$508,784 = 1.34	\$360,052 = 1.26
Average Total Assets	\$381,014	\$286,057
x Average Total Assets	\$381,014 = 1.64	\$286,057 = 1.46
Average Shareholders' Equity	\$232,988	\$196,352
Return on Equity	0.12*	0.09

The company's net profit margin has not changed. The increase in ROE is caused by the increase in asset turnover (from 1.26 in the prior year to 1.34 in the current year) and financial leverage (from 1.46 in the prior year to 1.64 in the current year).

*Note that multiplying the above numbers yields 0.11 because of rounding error.

Req. 3.

Security analysts would be more likely to *increase* their estimates of share value on the basis of this change. The company increased its earnings by \$0.03 for each \$1 dollar of stockholders' investment and, hence, increased the corresponding value of that investment. The company is now using its assets more efficiently and financial leverage levels, while increased, remain reasonable.

PROBLEMS

P5-1.

- (1) E; (2) L; (3) D; (4) I; (5) M; (6) W; (7) B; (8) Q; (9) A; (10) R; (11) U; (12) N; (13) C; (14) G; (15) V; (16) H; (17) K; (18) J; (19) T; (20) S; (21) O; (22) P; (23) F.

P5-2.

- | | |
|--------------------------------|---------------------------------|
| G (1) Retained earnings | B (11) Capital in excess of par |
| L (2) Current liabilities | Q (12) Liabilities |
| D (3) Liquidity | P (13) Fixed assets |
| H (4) Contra-asset account | C (14) Shareholders' equity |
| N (5) Accumulated depreciation | E (15) Current assets |
| J (6) Intangible assets | K (16) Assets |
| A (7) Other assets | O (17) Long-term liabilities |
| I (8) Shares outstanding | |
| M (9) Normal operating cycle | |
| F (10) Book value | |

P5-3.

Req. 1

KING JEWELERS
Balance Sheet
December 31, 20C

Assets	
Current Assets	
Cash.....	\$ 42,000
Accounts receivable.....	51,300
Prepaid insurance.....	800
Merchandise inventory.....	<u>110,000</u>
Total current assets.....	\$204,100
Long-Term Investments	
Stock of Z Corporation.....	26,000
Fixed Assets	
Store equipment.....	48,000
Less accumulated depreciation.....	<u>9,600</u>
Total fixed assets.....	38,400
Other Assets	
Used store equipment held for disposal.....	<u>7,000</u>
Total assets.....	<u>\$275,500</u>
Liabilities	
Current Liabilities	
Accounts payable.....	\$ 42,000
Income taxes payable.....	<u>7,000</u>
Total current liabilities.....	\$ 49,000
Long-Term Liabilities	
Notes payable (long-term).....	<u>30,000</u>
Total liabilities.....	\$ 79,000
Stockholders' Equity	
Contributed Capital	
Common stock, par \$1 per share, 100,000 shares.....	100,000
Contributed capital in excess of par.....	<u>10,000</u>
Total contributed capital.....	110,000
Retained Earnings.....	<u>86,500</u>
Total stockholders' equity.....	196,500
Total liabilities and stockholders' equity.....	<u>\$275,500</u>

P5-3. (continued)

Req. 2

Item	Computation of Net Book Value	Brief Explanation of Net Book Value
(a) Inventory	\$110,000, given	Acquisition or purchase cost.
(b) Accounts receivable	\$51,300	Balance due from customers.
(c) Store equipment	\$48,000 - \$9,600 = \$38,400	Acquisition cost less sum of all depreciation expense to date.
(d) Notes payable (long-term)	\$30,000, given	Amount of principal payable at maturity date

Net book value (sometimes called book value or carrying value) is the amount of cost reported on the balance sheet less any contra accounts (offsets).

P5-4.

Req. 1

**STEWART COMPANY
Balance Sheet (Partial)
December 31, 20X**

Property, Plant, and Equipment:		
Building	\$450,000	
Less accumulated depreciation (\$450,000 x 15/25).....	<u>270,000</u>	\$180,000
Land		<u>70,000</u>
Total Property, Plant, and Equipment		<u>\$250,000</u>
Total book value <u>\$250,000</u> .		

Req. 2

Depreciation expense on the 20X income statement:

$\$450,000 \div 25 \text{ years} = \$18,000$. There would be no depreciation on the land.

(Note: This problem specifies no residual or scrap value.)

P5-5.

Req. 1

**MESA CORPORATION
Balance Sheet
December 31, 20B**

Stockholders' Equity		
Contributed capital:		
Common stock par \$10, 8,000 shares outstanding (8,000 x \$10).....	\$80,000	
Contributed capital in excess of par [\$10,000 + (1,000 shares x \$5 = \$5,000)].....	<u>15,000</u>	
Total contributed capital.....		<u>\$95,000</u>
Retained earnings:		
Ending balance		
[\$50,000 + \$40,000 - (7,000 shares x \$3 = \$21,000)].....	<u>69,000</u>	
Total stockholders' equity.....		<u>\$164,000</u>

Req. 2

Cash (1,000 shares x \$15) (A).....	15,000	
Common stock, par \$10 (1,000 shares) (SE).....		10,000
Contributed capital in excess of par, common stock [1,000 shares x (\$15 - \$10)] (SE).....		<u>5,000</u>

P5-6.

Req. 1

**Adolf Coors Company
Consolidated Statement of Income
For the year ended December 26, 20A
(in thousands)**

Net sales	\$1,550,788
Cost of goods sold	<u>1,035,544</u>
Gross profit	515,244
Marketing, general and administrative	429,573
Research and project development	<u>12,370</u>
Income from operations	73,301
Other income (expense)	
Interest income	255
Miscellaneous income - net	1,087
Interest expense	<u>(16,014)</u>
Income from continuing operations before taxes and cumulative effects of changes in accounting	58,629
Income tax expense	<u>22,900</u>
Income from continuing operations before cumulative effects of changes in accounting	35,729
Net loss from discontinued operations	<u>(29,415)</u>
Cumulative effect of change in accounting for income taxes	30,500
Cumulative effect of change in accounting for postretirement benefits (net of tax)	<u>(38,800)</u>
Net income (loss)	<u>\$ (1,986)</u>

Req. 2

The primary differences between the single-step and multiple-step approaches are (a) the subtotal Income from operations separating items relating to normal operations from those relating to peripheral activities of the company, such as earning interest on investments and incurring losses on sales of fixed assets and (b) the significance placed on relating sales to the cost of goods sold to report the subtotal gross profit before reporting the remaining operating items. It is important to note that all of the information necessary to prepare a multiple-step statement is provided by the single-step statement.

P5-7.

Req. 1

(a) **THOMAS REAL ESTATE COMPANY**
Income Statement
For the Year Ended March 31, 20C

Revenues:		
Sales commissions	\$77,000	
Management fees	<u>13,000</u>	
Total revenues		\$90,000
Expenses:		
Operating expenses	48,000	
Depreciation expense	5,500	
Interest expense	<u>2,500</u>	
Total expenses	<u>56,000</u>	
Pretax income	34,000	
Income tax expense (\$34,000 x 30%)	<u>10,200</u>	
Net income	<u>\$23,800</u>	
Earnings per share (\$23,800 ÷ 30,000 shares)	<u>\$.79</u>	

Income tax expense (\$34,000 x 30%) (E)	10,200	
Income tax payable (L)		10,200

P5-7. (continued)

Req. 1 (continued)

(b) **THOMAS REAL ESTATE COMPANY**
Balance Sheet
March 31, 20C

Assets		
Current Assets:		
Cash		\$53,000
Accounts receivable	44,800	
Office supplies inventory	<u>300</u>	
Total current assets		\$98,100
Noncurrent Assets:		
Automobiles	\$30,000	
Less accumulated depreciation	<u>10,000</u>	20,000
Office equipment	<u>3,000</u>	
Less accumulated depreciation	<u>1,000</u>	<u>2,000</u>
Total noncurrent assets		22,000
Total assets		<u>\$120,100</u>
Liabilities		
Current Liabilities:		
Accounts payable	\$20,250	
Income tax payable	10,200	
Salaries and commissions payable	<u>1,500</u>	
Total current liabilities		\$31,950
Long-Term Liabilities:		
Notes payable		<u>30,000</u>
Total liabilities		61,950
Stockholders' Equity		
Contributed capital:		
Capital stock (30,000 shares, par \$1)	\$30,000	
Contributed capital in excess of par	<u>5,000</u>	
Total contributed capital		35,000
Retained earnings (beginning balance, \$7,350 + net income, \$23,800 - dividends declared and paid, \$8,000)	<u>23,150</u>	
Total stockholders' equity		58,150
Total liabilities and stockholders' equity		<u>\$120,100</u>

Req. 2

P5-8.

Item	Key Computations Numbered in Order	Amounts	
Net sales revenue	Given		\$260,000
Cost of goods sold	(2) \$260,000 - \$91,000		<u>169,000</u>
Gross margin on sales	(1) \$260,000 x 35% (given)		91,000
Expenses:			
Selling expenses	(10) \$53,500 - \$28,000 - \$4,000	\$21,500	
General & Admin. expenses	Given	28,000	
Interest expense	Given	<u>4,000</u>	
Total expenses	(9) \$91,000 - \$37,500		<u>53,500</u>
Pretax income	(7) \$30,000 ÷ (1.00 - .20 tax rate)		37,500
Income tax on operations	(8) \$37,500 x 20% (tax rate given)		<u>7,500</u>
Income before extraordinary items	(3) 25,000 shares (given) x \$1.20 EPS (given)		30,000
Extraordinary gain	Given	\$12,000	
less: Income tax effect	(4) \$12,000 x 20% (tax rate given)	<u>2,400</u>	
Net extraordinary gain	(5) \$12,000 - \$2,400		<u>9,600</u>
Net income	(6) \$30,000 + \$9,600		<u>\$39,600</u>
EPS [on common stock outstanding (25,000 shares given)]:			
Income before extraordinary gain	Given		\$1.20
Extraordinary gain	(11) \$9,600 ÷ 25,000 shares (given)		<u>.38</u>
Net income	(12) \$39,600 ÷ 25,000 shares (given)		<u>\$1.58</u>

P5-9.

**Srinivasan Company
Statement of Cash Flows
For the Year Ended December 31, 20B**

From Operating Activities	
Net income	\$55,000
Increase in inventories	(10,000)
Increase in accounts receivable	(5,000)
Increase in accounts payable	6,000
Cash flows from operating activities	<u>\$ 46,000</u>
From Investing Activities	
Purchased equipment.....	\$(80,000)
Purchased land.....	(8,000)
Cash flows from investing activities	<u>\$(88,000)</u>
From Financing Activities	
Sale of capital stock (3,000 shares x \$12).....	\$ 36,000
Paid long-term note.....	(12,000)
Borrowing on long-term note	20,000
Paid cash dividend.....	(15,000)
Cash flows from financing activities	<u>\$ 29,000</u>
Net cash outflow	\$(13,000)
Beginning balance	40,000
Ending balance.....	<u>\$27,000</u>

P5-10.

Req. 1.

Transaction	Gross Profit	Operating Income (Loss)	Return on Equity
a.	+	+	+
b.	NE	-	-
c.	NE	NE	-
d.	NE	NE	+

The effects of the transactions can be seen by making the related journal entries and using CA, CL, SE, R, and E to denote current asset, current liability, shareholders' equity, revenue, and expense, respectively.

a.*	Accounts receivable (CA)	500	
	Sales revenue (R)		500
	Cost of goods sold (E)	475	
	Inventory (CA)		475
*Note that net income goes up by \$25 as does ending stockholders' equity. As a consequence, average stockholders' equity ((beginning + ending)/2) increases by only one-half of that amount or \$12.5.			
b.	Research and development expense (E)	100	
	Cash (CA)		100
c.	Cash (CA)	200	
	Common Stock and Additional Paid-in Capital (SE).....		200
d.	Retained Earnings (SE)	90	
	Cash (CA)		90

Req. 2.

Assuming that next period Apple pays no dividends, does not issue or retire stock, and earns the same income as during the current period, Apple's ROE will be lower than in the current period. Net income increases shareholder's equity. Hence, average shareholders' equity (the denominator in the ROE ratio) will increase in the next period and ROE will decrease in the next period.

ALTERNATE PROBLEMS

AP5-1.

Req. 1

**CARPET BAZAAR
Balance Sheet
December 31, 20C**

Assets	
Current Assets	
Cash.....	\$ 35,000
Accounts receivable	47,500
Prepaid insurance.....	1,300
Inventory.....	<u>118,000</u>
Total current assets	\$201,800
Long-Term Investments	
Stock of ABC Corporation.....	32,000
Fixed Assets	
Store equipment.....	51,000
Less accumulated depreciation	<u>10,200</u>
Total fixed assets.....	40,800
Other Assets	
Used store equipment held for disposal.....	<u>3,500</u>
Total assets.....	<u>\$278,100</u>
Liabilities	
Current Liabilities	
Accounts payable.....	\$ 45,000
Income taxes payable	<u>6,000</u>
Total current liabilities	\$ 51,000
Long-Term Liabilities	
Notes payable (long-term).....	<u>26,000</u>
Total liabilities	\$ 77,000
Stockholders' Equity	
Contributed Capital	
Common stock, par \$1 per share, 100,000 shares	100,000
Contributed capital in excess of par	25,000
Total contributed capital.....	125,000
Retained Earnings	<u>76,100</u>
Total Stockholders' equity.....	201,100
Total liabilities and stockholders' equity.....	<u>\$278,100</u>

AP5-1. (continued)

Req. 2

Item	Computation of Net Book Value	Brief Explanation of Net Book Value
(a) Inventory	\$118,000, given	Acquisition or purchase cost.
(b) Accounts receivable	\$47,500	Balance due from customers.
(c) Store equipment	\$51,000 - \$10,200 = \$40,800	Acquisition cost less sum of all depreciation expense to date.
(d) Notes payable (long-term)	\$26,000, given	Amount of principal payable at maturity date

Net book value (sometimes called book value or carrying value) is the amount of **cost** reported on the balance sheet **less** any contra accounts (offsets).

AP5-2.

Req. 1

**RICHMOND INC
Balance Sheet (Partial)
December 31, 20X**

Property, Plant, and Equipment:		
Building	\$630,000	
Less accumulated depreciation (\$630,000 x 12/20)	<u>378,000</u>	\$252,000
Land		<u>112,000</u>
Total Property, Plant, and Equipment		<u>\$364,000</u>
Total book value <u>\$364,000</u> .		

Req. 2

Depreciation expense on the 20X income statement:

\$630,000 ÷ 20 years = \$31,500. There would be no depreciation on the land.

(Note: This problem specifies no residual or scrap value.)

AP5-3.

Req. 1

**POTAMIA CORPORATION
Balance Sheet
December 31, 20B**

Stockholders' Equity	
Common stock par \$10, 11,000 shares outstanding (11,000 x \$10)	\$110,000
Additional paid-in capital [\$28,500 + (1,500 shares x \$7 = \$10,500)]	39,000
Retained earnings - Ending balance [\$70,000 + \$50,000 - (9,500 shares x \$2 = \$19,000)]	<u>101,000</u>
Total stockholders' equity	<u>\$250,000</u>

Req. 2

Cash (1,500 shares x \$17) (A)	25,500	
Common stock, par \$10 (1,500 shares) (SE)		15,000
Additional paid-in capital [1,500 shares x (\$17 - \$10)] (SE)		10,500

AP5-4.

Req. 1

**(a) ACME PEST CONTROL SERVICES
Income Statement
For the Year Ended August 31, 20C**

Revenues:		
Sales revenue	\$38,000	
Maintenance contract revenue	<u>17,000</u>	
Total revenues		\$55,000
Expenses:		
Operating expenses	27,000	
Depreciation expense	12,000	
Interest expense	<u>2,000</u>	
Total expenses		<u>41,000</u>
Pretax income		14,000
Income tax expense (\$14,000 x 30%)		<u>4,200</u>
Net income		<u>\$9,800</u>
Earnings per share (\$9,800 ÷ 10,000 shares)		<u>\$.98</u>

AP5-4. (continued)

Req. 1 (continued)

**(b) ACME PEST CONTROL SERVICES
Balance Sheet
For the Year Ended August 31, 20C**

Assets		
Current Assets:		
Cash		\$26,000
Accounts receivable	30,800	
Supplies inventory	<u>1,300</u>	
Total current assets		\$58,100
Noncurrent Assets:		
Service vehicles	\$60,000	
Less accumulated depreciation	<u>20,000</u>	
Equipment	\$14,000	
Less accumulated depreciation	<u>4,000</u>	
Total noncurrent assets		<u>50,000</u>
Total assets		<u>\$108,100</u>
Liabilities		
Current Liabilities:		
Accounts payable	\$16,700	
Income tax payable	4,200	
Salaries payable	<u>1,100</u>	
Total current liabilities		\$22,000
Long-Term Liabilities:		
Notes payable		<u>34,000</u>
Total liabilities		\$56,000
Stockholders' Equity		
Contributed capital:		
Capital stock (10,000 shares, par \$1)	\$10,000	
Contributed capital in excess of par	<u>30,000</u>	
Total contributed capital		\$40,000
Retained earnings (beginning balance, \$4,300 + net income, \$9,800 - dividends declared and paid, \$2,000)		<u>12,100</u>
Total stockholders' equity		<u>52,100</u>
Total liabilities and stockholders' equity		<u>\$108,100</u>

Req. 2

Income tax expense (\$14,000 x 30%) (E)	4,200	
Income tax payable (L)		4,200

AP5-5.

Req. 1.

Transaction	Operating Income (Loss)	Net Income	Return on Equity
a.	NE	+	+
b.	NE	NE	NE
c.	-	-	-
d.	NE	NE	-

The effects of the transactions can be seen by making the related journal entries and using CA, CL, SE, R, and E to denote current asset, current liability, shareholders' equity, revenue, and expense, respectively.

a.	Cash (CA)	4	
	Interest income (R)		4
b.	Inventory (CA)	25	
	Accounts Payable (CL)		25
c.	Advertising expense (E)	9	
	Cash (CA)		9
d.	Cash (CA)	50	
	Common Stock and Additional Paid-in Capital (SE)		50

Req. 2.

Assuming that next period Barnes & Noble pays no dividends, does not issue or retire stock, but earns 20% more income as during the current period, Barnes & Noble's ROE will *increase* over that earned in the current period. The answer, however, is not obvious. Net income *increases* shareholder's equity. Hence, average shareholder's equity (the denominator in the ROE ratio) will increase in the next period. In this case, net income is increasing at a slightly faster rate than average shareholder's equity, causing ROE to be slightly higher in the next period. (However, if earnings had only increased by 10%, Barnes & Noble's ROE would have decreased slightly. Students are encouraged to calculate ROE to verify this assertion.)

CASES AND PROJECTS

FINANCIAL REPORTING AND ANALYSIS CASES

CP5-1.

- The company presents a multiple-step income statement on page 13 with the subtotals "gross profit" and "operating income."
- The cash flow statement indicates that operating activities provided \$59,821,000 in cash, while financing activities provided only \$2,033,000 in cash. Thus, most of the investing activities were financed by operating activities.
- The company's largest asset (net) is "Cash and cash equivalents" of \$71,940,000 reported on the balance sheet.
- Advertising expense was \$16,431,000. This is disclosed in note 2.
- Women's apparel has grown from 47% to 52% of sales over the past three years. This is disclosed in note 1.

CP5-2.

- The stock reached a high of \$24 3/4 per share during the 1st quarter of fiscal 1999. This is disclosed in the "market information" portion of the annual report.
- The company owned \$543,000 worth of land. This is disclosed in the "property and equipment" note.
- Rent expense was \$14,594,000. This is disclosed in the "leases" note.
- Accrued sales taxes were \$956,000 of the total \$5,866,000 of accrued expenses. This is disclosed in the "accrued expenses" note.
- Of the total \$21,881,000 of inventory, \$19,397,000 relates to retail operations and \$2,484,000 relates to wholesale operations. This is disclosed in the "segment reporting" note.

CP5-3.

Req. 1.

	American Eagle Outfitters	Urban Outfitters
Net income (given)	\$54,118	\$15,760
Average Shareholders' Equity (given)	121,003 = 0.45	97,976 = 0.16

American Eagle provided the highest return to shareholders during the current year.

Req. 2.

ROE Analysis	American Eagle Outfitters	Urban Outfitters
Net Income	54,118	15,760
Net Sales	587,600 = 0.09	208,969 = 0.08
x Net Sales	587,600 = 3.30	208,969 = 1.74
Average Total Assets	177,872	120,394
x Average Total Assets	177,872 = 1.47	120,394 = 1.23
Average Shareholders' Equity	121,003	97,976
Return on Equity	0.45	0.16

Although some of American Eagle's higher ROE is due to higher profit margins and higher leverage, the majority of the difference is due to higher asset turnover. Ownership of property, plant, and equipment decreases the total asset turnover ratio relative to rentals. The owned assets would be included in "average total assets" while rented assets would not be included—thus, for the same level of sales, asset turnover would be lower.

CP5-3. (continued)

Req. 3.

Industry Return on Equity (ROE) profit driver analysis:

ROE = Net Profit Margin × Asset Turnover × Financial Leverage

ROE Analysis	Industry Average	American Eagle Outfitters	Urban Outfitters
Net Profit Margin	0.04	0.09	0.08
Asset Turnover	2.55	3.30	1.74
Financial Leverage	2.59	1.47	1.23
Return on Equity	0.27	0.45*	0.16*

*product slightly different due to rounding

American Eagle Outfitters and Urban Outfitters both outperform the industry average in net profit margin. American Eagle Outfitters outperforms the industry average in asset turnover while Urban Outfitters underperforms the industry average in asset turnover. In financial leverage, both American Eagle Outfitters and Urban Outfitters are less highly leveraged than the average company in their industry.

CP5-4.

Companies involved in alleged instances of fraudulent financial reporting are relatively small, with an average of less than \$100 million in assets prior to the fraud. Top senior executives (specifically, the CEO or CFO) are frequently involved. Typical accounting fraud techniques include the overstatement of revenues (through early recording of legitimate revenues or the recording of fictitious revenues) and the overstatement of assets (by overstating the assets' value or by recording fictitious assets). Possible motivations for introducing misstatements into the income statement near the end of the accounting period may include the need to meet contractual targets (such as debt covenant requirements or executive bonus targets) or the need to present a particular image of the company (for example, that of a healthy and growing company, in order to renew or obtain financing more easily).

CP5-5.

1. Gross margin on sales, \$105,000.

Computation:

Sales revenue	\$275,000
Less: Cost of goods sold	170,000
Gross margin on sales.....	<u>\$105,000</u>

2. EPS, \$1.00.

Computation:
Net income, \$10,000 ÷ (\$100,000 ÷ \$10 = 10,000 shares)
= \$1.00 per share.

3. Pretax income, \$13,333.

Computation (and proof):

Pretax income [\$10,000 ÷ (100% - 25% = 75%)]	\$13,333
Proof:	
Income tax (\$13,333 x 25%)	3,333
Net income (\$13,333 x 75%) (given)	<u>\$10,000</u>

4. Average sales price per share of stock, \$11.60.

Computation:
(\$100,000 + \$16,000 = \$116,000) ÷ (\$100,000 ÷ \$10 = 10,000 shares)
= \$11.60 per share.

5. Beginning balance, \$70,000.

Computation: (work backwards)

Beginning balance (?) (\$80,000 - \$10,000).....	\$70,000
Add: 20C net income (given)	10,000
Deduct: 20C dividends (given)	(None)
Ending balance (given)	<u>\$80,000</u>

CP5-6.

The following points can be discussed:

- (1) Classifications do not follow the traditional format for most companies in this country. The balance sheet lists noncurrent assets first, and current assets and current liabilities are shown together with the subtotal net current assets.
- (2) Stocks represent inventories.
- (3) Debtors are accounts receivable.
- (4) Provisions for liabilities and charges are accruals and miscellaneous liabilities.
- (5) Called-up share capital is the total of common stock and preferred stock at par value.
- (6) Share premium account is the excess of contributed capital over par value.
- (7) Profit and loss account is retained earnings. The other accounts are self-explanatory.

CP5-7.

Req. 1

$$\text{Sales Growth} = \frac{(\$254,645 - \$132,058)}{\$132,058} = 92.8\%$$

This is greater than the 35.1% target.

$$\text{Pretax Earnings} = \frac{\$69,600}{\$254,645} = 27.3\%$$

This is greater than the 21.1% target.

The executives earned their maximum bonuses in the most recent fiscal year presented.

Req. 2

The slower growth rate three years later might indicate the company is maturing. In a market where industry-wide sales are growing slowly, it becomes more difficult to maintain a high growth rate when your share of the product market is large. For example, when your company accounts for only 5% of industry sales, a 40% growth in sales requires that you only add an additional 2% of the total market to your sales. However, when you account for 50% of the market, a 40% growth in sales requires that you add an additional 20% of the total market to your sales, which is a significantly more difficult prospect.

CRITICAL THINKING CASES**CP5-8.**

Strategy Change	Current Period ROE	Future Periods' ROE	Explanation
a.	+	-	The decrease in R&D investments would lead to lower expense in the current year, increasing current period's income and ROE. However, when fewer products are brought to market in future periods, income and ROE will decrease.
b.	-	+	The advertising expense would decrease income and ROE in the current year. Assuming that the movie earns a greater income in future periods because of the advertising, net income will increase, increasing ROE in future periods.
c.	-	+	The issuance of additional stock increases average stockholders' equity and, hence, decreases ROE in the current year. The proceeds are used only in future periods to purchase other high-tech companies—assuming those companies are profitable, their purchase would then increase income and ROE in future periods.

CP5-9.

Error	Net Income		Assets		Liabilities	
	20A	20B	20A	20B	20A	20B
(1)	0	NE	0	0	NE	NE
	\$950		\$950	\$950		
(2)	0	U	NE	NE	U	NE
	500	\$500			\$500	
(3)	U	O	U	NE	NE	NE
	600	600	600			
(4)	U	0	U	NE	NE	NE
	200	200	200			
(5)	0	U	NE	NE	U	NE
	900	900			900	
(6)	U	NE	U	U	NE	NE
	300		300	300		
(7)	NE	NE	U	NE	U	NE
			8,000		8,000	

CP5-9. (continued)

Explanation of analysis if not corrected:

- (a) Given in problem (example).
- (b) Wage expense should be increased (debited) by \$500 in 20A because the wages were incurred in that year. This increase in expense was not recorded; therefore, income of 20A was overstated by \$500. The wages were not paid when earned in 20A. Therefore, there is a 20A liability of \$500; thus, liabilities were understated at the end of 20A.
- (c) Revenues were understated by \$600 in 20A, which caused 20A income to be understated by \$600. Also accounts receivable was understated because the amount of \$600 will be collected in 20B; thus, assets were understated by \$600 at the end of 20A. Also, if not corrected, the \$600 of revenue would be recorded in 20B, which would cause 20B revenues, and hence income, to be overstated.
- (d) The \$200 expense should be recorded as 20B expense. It was recorded in 20A; therefore, 20A expense was overstated which would cause 20A income to be understated. If not corrected, 20B expense would be understated, which would cause 20B income to be overstated by \$200. Assets at the end of 20A would be understated by \$200 because prepaid expense (an asset) should be debited at the end of 20A for this expense, because it was paid in advance.
- (e) The \$900 revenue should be recorded as revenue in 20B because it was earned in 20B. Therefore, if not corrected, 20A revenue and income would be overstated by \$900. Also, 20B revenue and income would be understated by \$900 because that is the year that the \$900 revenue was earned but was not recorded. At the end of 20A liabilities would be understated by \$900 because revenue collected in advance (a liability to render future performance to earn the revenue) should be credited for \$900 at the end of 20A.
- (f) This transaction should have recorded a credit to revenue of \$300 instead of a credit to accounts receivable. Therefore, revenue, and hence income, was understated by \$300. The credit to accounts receivable caused assets to be understated by \$300 for each year. Accounts receivable will continue to be understated until a correction is made.
- (g) This transaction should have been recorded in 20A as a debit to Land (an asset) and a credit to Liability, \$8,000. Therefore, at the end of 20A both assets and liabilities were understated by \$8,000. The entry in 20B corrected the accounts.

CP5-10.

1. Those responsible for the misstatements had not been determined at the time this solution was prepared.
2. On January 28, 1997, the day before the announcement of the misstatements, the stock closed at 14 7/8 per share. The stock did not trade on the day the misstatements were announced. On January 30, the stock closed at 2 1/8, a decline of 86%.
3. Bonuses tied to performance measures such as accounting earnings tend to align the managers' interests with those of the shareholders. However, when companies face a significant downturn, and bonuses will not be awarded, some dishonest managers attempt to meet performance goals by falsifying accounting numbers.

FINANCIAL REPORTING AND ANALYSIS PROJECTS**CP5-11 through CP5-20.**

The solutions to these cases will depend on the company and/or accounting period selected for analysis.

Chapter 6 Reporting and Interpreting Sales Revenue, Receivables, and Cash

ANSWERS TO QUESTIONS

- The difference between sales revenue and net sales is the amount of goods returned by customers because the goods were either unsatisfactory or not desired and also includes sales allowances given to customers (also refer to the answers given below to questions 4 and 5).
- Gross profit or gross margin on sales is the difference between net sales and cost of goods sold. It represents the average gross markup realized on the goods sold during the period. The gross margin ratio is computed by dividing the amount of gross margin by the amount of net sales. For example, assuming sales of \$100,000, and cost of goods sold of \$60,000, the gross margin on sales would be \$40,000. The gross margin ratio would be $\$40,000/\$100,000 = .40$. This ratio may be interpreted to mean that out of each \$100 of sales, \$40 was realized above the amount expended to purchase the goods that were sold.
- A credit card discount is the fee charged by the credit card company for services. When a company deposits its credit card receipts in the bank, it only receives credit for the sales amount less the discount. The credit card discount account either decreases net sales (it is a contra revenue) or increases selling expense.
- A sales discount is a discount given to customers for payment of accounts within a specified short period of time. Sales discounts arise only when goods are sold on credit and the seller extends credit terms that provide for a cash discount. For example, the credit terms may be 1/10, n/30. These terms mean that if the customer pays within 10 days, 1% can be deducted from the invoice price of the goods. Alternatively, if payment is not made within the 10-day period, no discount is permitted and the total invoice amount is due within 30 days from the purchase, after which the debt is past due. To illustrate, assume a \$1,000 sale with these terms. If the customer paid within 10 days, \$990 would have been paid. Thus, a sales discount of \$10 was granted for early payment.

- A sales allowance is an amount allowed to a customer for unsatisfactory merchandise or for an overcharge in the sales price. A sales allowance reduces the amount the customer must pay, or if already paid, a cash refund is required. Sales allowances may occur whether the sale was for cash or credit. In contrast, a sales discount is a cash discount given to a customer who has bought on credit, with payment made within the specified period of time. (Refer to explanation of sales discount in Question 4, above.)
- An account receivable is an amount owed to the business on open account by a trade customer for merchandise or services purchased. In contrast, a note receivable is a short-term obligation owed to the company based on a formal written document.
- In conformity with the matching principle, the allowance method records bad debt expense in the same period in which the credit was granted and the sale was made.
- Using the allowance method, bad debt expense is recognized in the period in which the sale related to the uncollectible account was recorded.
- The write-off of bad debts using the allowance method decreases the asset accounts receivable and the contra asset allowance for doubtful accounts by the same amount. As a consequence, (a) net income is unaffected and (b) accounts receivable, net, is unaffected.
- An increase in the receivables turnover ratio generally indicates faster collection of receivables. A higher receivables turnover ratio reflects an increase in the number of times average trade receivables were recorded and collected during the period.
- Cash includes money and any instrument, such as a check, money order, or bank draft, which banks normally will accept for deposit and immediate credit to the depositor's account. Cash equivalents are short-term investments with original maturities of three months or less that are readily convertible to cash, and whose value is unlikely to change (e.g., bank certificates of deposit and treasury bills).
- The primary characteristics of an internal control system for cash are: (a) separation of the functions of cash receiving from cash payments, (b) separation of cash-receiving and cash-paying routines, (c) separation of the physical handling of cash from the accounting function, (d) deposit all cash receipts and make all cash payments by check, and (e) require separate approval of all checks and electronic funds transfers, and (f) require monthly reconciliation of bank accounts.

- Cash-handling and cash-recording activities should be separated to remove the opportunity for theft of cash and a cover-up by altering the records. This separation is accomplished best by assigning the responsibility for cash handling to individuals other than those who have the responsibility for record-keeping. In fact, it usually is desirable that these two functions be performed in different departments of the business.
- The purposes of a bank reconciliation are (a) to determine the "true" cash balance and (b) to provide data to adjust the Cash account to that balance. A bank reconciliation involves reconciling the balance in the Cash account at the end of the period with the balance shown on the bank statement (which is not the "true" cash balance) at the end of that same period. Seldom will these two balances be identical because of such items as deposits in transit; that is, deposits that have been made by the company but not yet entered on the bank statement. Another cause of the difference is outstanding checks, that is, checks that have been written and recorded in the accounts of the company that have not cleared the bank, hence they have not been deducted from the bank's balance. Usually the reconciliation of the two balances, per books against per bank, requires recording of one or more items that are reflected on the bank statement but have not been recorded in the accounting records of the company. An example is the usual bank service charge.
- The **total** amount of cash that should be reported on the balance sheet is the sum of (a) the true cash balances in all checking accounts (verified by a bank reconciliation of each checking account), (b) cash held in all "cash on hand" (or "petty cash") funds, and (c) any cash physically on hand (any cash not transferred to a bank for deposit—usually cash held for change purposes).
- (Based on Supplement A) The percentage of completion method may be used for long-term construction projects. Companies that use the percentage of completion method must have a firm contract that guarantees payment. A related method, proportional performance, is used for service contracts.
- (Based on Supplement B) Under the gross method of recording sales discounts, the amount of sales discount taken is recorded at the time the collection of the account is recorded.

Authors' Recommended Solution Time (Time in minutes)

Mini-exercises		Exercises		Problems		Alternate Problems		Cases and Projects	
No.	Time	No.	Time	No.	Time	No.	Time	No.	Time
1	5	1	15	1	25	1	35	1	25
2	5	2	15	2	35	2	35	2	30
3	10	3	15	3	20	3	50	3	35
4	10	4	20	4	35	4	40	4	35
5	10	5	20	5	50	5	45	5	40
6	10	6	30	6	40			6	45
7	10	7	30	7	40			7	20
8	10	8	15	8	45			8	35
9	10	9	15	9	45			9	*
		10	15	10	45			10	*
		11	20	11	45			11	*
		12	20					12	*
		13	30					13	*
		14	15					14	*
		15	30					15	*
		16	30						
		17	15						
		18	20						
		19	20						
		20	20						
		21	15						
		22	20						
		23	30						
		24	20						
		25	30						

* Due to the nature of these cases and projects, it is very difficult to estimate the amount of time students will need to complete the assignment. As with any open-ended project, it is possible for students to devote a large amount of time to these assignments. While students often benefit from the extra effort, we find that some become frustrated by the perceived difficulty of the task. You can reduce student frustration and anxiety by making your expectations clear. For example, when our goal is to sharpen research skills, we devote class time to discussing research strategies. When we want the students to focus on a real accounting issue, we offer suggestions about possible companies or industries.

MINI-EXERCISES

M6-1.

Transaction	Point A	Point B
(a) Airline tickets sold by an airline on a credit card	Point of sale	x Completion of flight
(b) Computer sold by mail order company on a credit card	x Shipment	Delivery
(c) Sale of inventory to a business customer on open account	x Shipment	Collection of account

M6-2.

If the buyer pays within the discount period, the income statement will report \$1,960 as net sales (\$2,000 x 0.98).

M6-3.

Credit card sales (R)	\$8,000
Less: Credit card discount (XR)	240
Net credit card sales	<u>\$7,760</u>
Sales on account (R)	\$9,500
Less: Sales returns (XR)	500
	9,000
Less: Sales discounts (1/2 x 9,000 x 2%) (XR)	90
Net sales on account	<u>\$8,910</u>
Net sales (reported on income statement)	<u>\$16,670</u>

M6-4.

$$\text{Gross Profit Percentage} = \frac{\text{Gross Profit}}{\text{Net Sales}} = \frac{\$56,000 - \$48,000}{\$56,000} = \frac{\$8,000}{\$56,000} = 0.143$$

The gross profit percentage is 14.3%. This ratio measures the excess of sales prices over the costs to purchase or produce the goods or services sold as a percentage. It indicates a company's ability to charge premium prices and produce goods and services at lower cost.

M6-5.

(a) Allowance for doubtful accounts (XA)	17,000
Accounts receivable (A).....	17,000
To write off specific bad debts.	
(b) Bad debts expense (E).....	14,000
Allowance for doubtful accounts (XA).....	14,000
To record estimated bad debt expense.	

M6-6.

	Assets	Liabilities	Stockholders' Equity
(a)	Allowance for doubtful accounts -10,000		Bad debts expense -10,000
(b)	Allowance for doubtful accounts +8,000		
	Accounts receivable -8,000		

M6-7.

+	(a) Granted credit with shorter payment deadlines.
+	(b) Increased effectiveness of collection methods.
-	(c) Granted credit to less creditworthy customers.

M6-8.

Reconciling Item	+	-	Company's Books	Bank Statement
(a) Outstanding checks				-
(b) Bank service charge			-	
(c) Deposit in transit				+

M6-9. (Based on Supplement B)

A \$700 credit sale with terms, 2/10, n/30, should be recorded as follows:

Accounts receivable (A)	700	
Sales revenue (R)		700

This entry records the sale at the gross amount. If the customer does pay within the discount period, only \$686 must be paid, in which case the entry for payment would be as follows:

Cash (A)	686	
Sales discounts (XR)	14	
Accounts receivable (A)		700

EXERCISES

E6-1.

Sales revenue (\$1,000 + \$800 + \$500).....	\$2,300
Less: Sales discount (\$1,000 collected from S. Green x 2%).....	20
Net sales	<u>\$2,280</u>

E6-2.

Sales revenue (\$1,000 + \$5,000 + \$3,000).....	\$9,000
Less:	
Sales discount (\$5,000 collected from S x 3%).....	150
Credit card discount (\$1,000 from R x 2%).....	20
Net sales	<u>\$8,830</u>

E6-3.

Sales revenue (\$400 + \$4,000 + \$6,000).....	\$10,400
Less: Sales returns and allowances (1/10 x \$6,000 from D).....	600
Less: Sales discounts (1/10 x \$6,000 from D x 3%).....	162
Less: Credit card discounts (\$400 from B x 2%).....	8
Net sales	<u>\$9,630</u>

E6-4.

Transaction	Net Sales	Gross Profit	Income from Operations
July 12	+	+	+
July 15	+	+	+
July 20	NE	NE	-
July 21	-	-	-

E6-5.

Req. 1. (Amount saved + Amount paid) = Interest rate for 50 days.
(3% + 97%) = 3.09% for 50 days.

$$\text{Interest rate for 50 days} \times (365 + 50 \text{ days}) = \text{Annual interest rate}$$

$$3.09\% \times (365 + 50 \text{ days}) = 22.6\%$$

Req. 2. Yes, because the 15% rate charged by the bank is less than the 22.6% rate implicit in the discount. The company will earn 7.6% by doing so (22.6% - 15%).

E6-6.

Req. 1

SLATE, INCORPORATED
Income Statement
For the Year Ended December 31, 20B

	Amount	Percentage Analysis
Gross sales (\$220,000 + \$32,000).....	\$252,000	
Less sales returns and allowances	7,000	
Net sales revenue.....	245,000	100%
Cost of goods sold.....	147,000	60%
Gross margin on sales.....	98,000	40%
Operating expenses:		
Administrative expense	\$19,000	
Selling expense	40,200	
Bad debt expense (\$32,000 x 2.5%)	800	
	60,000	24%
Pretax income.....	38,000	16%
Income tax expense (\$38,000 x 30%).....	11,400	5%
Net income.....	\$ 26,600	11%
Earnings per share (\$26,600 ÷ 5,000 shares)	\$5.32	

Req. 2

Gross (profit) margin: \$245,000 - \$147,000 = \$98,000.

Gross profit percentage ratio: \$98,000 ÷ \$245,000 = .40 (or 40%).

Gross margin or gross profit in dollars is the difference between the sales prices and the costs of purchasing or manufacturing all goods that were sold during the period (sometimes called the markup); that is, net revenue minus only one of the expenses—cost of goods sold. The gross profit ratio is the amount of each net sales dollar that was gross profit during the period. For this company, the rate was 40%, which means that \$.40 of each net sales dollar was gross profit (alternatively, 40% of each sales dollar was gross profit for the period).

E6-7.

Req. 1

WOLVERINE WORLD WIDE INC.
Income Statement
For the Year Ended 20A

	Amount	Percentage Analysis
Net sales revenue.....	\$ 413,957	100%
Cost of goods sold	290,469	70%
Gross margin on sales.....	123,488	30%
Operating expenses:		
Selling and administrative expense	85,993	21%
Income from operations	37,495	9%
Other income (expense):		
Interest expense	\$ (3,678)	
Other income	297	
Pretax income.....	33,817	8%
Income tax expense	10,047	2%
Net income.....	\$ 23,770	6%
Earnings per share (\$23,770 ÷ 17,114 shares)	\$1.41	

Req. 2

Gross margin: \$413,957 - \$290,469 = \$123,488.

Gross margin ratio: \$123,488 ÷ \$413,957 = .30 (or 30%).

Gross margin or gross profit in dollars is the difference between the sales prices and the costs of purchasing or manufacturing all goods that were sold during the period (sometimes called the markup); that is, net revenue minus only one of the expenses—cost of goods sold. The gross profit ratio is the amount of each net sales dollar that was gross profit during the period. For this company, the rate was 30%, which means that \$.30 of each net sales dollar was gross profit (alternatively, 30% of each sales dollar was gross profit for the period).

Wolverine World Wide's gross profit percentage was well below Timberland's current (1998) percentage of 39.8% and even below Timberland's 1996 percentage of 36.5%. Timberland shoes have a reputation as a rugged product as well as a premium "high fashion" product. This has allowed it to maintain higher prices and higher gross margins. In marketing this is called the value of brand equity.

E6-8.

- (a) Bad debt expense (E) (\$720,000 x 0.005)..... 3,600
Allowance for doubtful accounts (XA)..... 3,600
To record estimated bad debt expense.
- (b) Allowance for doubtful accounts (XA) 300
Accounts receivable (A)..... 300
To write off a specific bad debt.

E6-9.

	Assets	Liabilities	Stockholders' Equity
(a)	Allowance for doubtful accounts - 3,600		Bad debts expense -3,600
(b)	Allowance for doubtful accounts +300		
	Accounts receivable -300		

E6-10.

- (a) Bad debt expense (E) (\$650,000 x 0.02)..... 13,000
Allowance for doubtful accounts (XA)..... 13,000
To record estimated bad debt expense (as a contra-revenue).
- (b) Allowance for doubtful accounts (XA) 1,600
Accounts receivable (A)..... 1,600
To write off a specific bad debt.

Transaction	Net Sales	Gross Profit	Income from Operations
a.	NE	NE	-
b.	NE	NE	NE

E6-11.

1. Bad debt expense (E) 92
Allowance for doubtful accounts (XA)..... 92
To estimate bad debt expense.
- Allowance for doubtful accounts (XA) 52
Accounts receivable (A)..... 52
To write off specific bad debts.
2. It would have no effect because the asset "Accounts receivable" and contra-asset "Allowance for doubtful accounts" would both decline by DM 10 million. Neither "Receivables, net" nor "Net income" would be affected.

E6-12.

1. **Allowance for doubtful accounts**

Write-offs	28	57	Beg. balance
		47	Bad debt exp.
		76	End. balance

Bad debt expense increases (is credited to) the allowance. Since we are given the beginning and ending balances in the allowance, we can solve for write-offs, which decrease (are debited to) the allowance.

2. **Accounts Receivable**

Beg. balance*	327	28	Write-offs
Net sales	3,753	3,638	Cash collections
End. balance**	414		

* 270 + 57

** 338 + 76

Accounts receivable gross is increased by recording credit sales and decreased by recording cash collections and write-offs of bad debts. Thus, we can solve for cash collections as the missing value.

E6-13.

Req. 1

The allowance for doubtful accounts is increased (credited) when bad debt expense is recorded and decreased (debited) when uncollectible accounts are written off. This case gives the beginning and ending balances of the allowance account and the amount of uncollectible accounts that were written off. Therefore, the amount of bad debt expense can be computed as follows:

Allowance for doubtful accounts			
(c)	69,000,000	(a)	86,605,000
		(d)	79,384,000
		(b)	96,989,000

- (a) Beginning balance, given
- (b) Ending balance, given
- (c) Uncollectible accounts write-off, given
- (d) Bad debt expense, plug amount to balance

Req. 2

Working capital is unaffected by the write-off of an uncollectible account when the allowance method is used. The asset account (accounts receivable) and the contra-asset account (allowance for doubtful accounts) are both reduced by the same amount; therefore, the book value of net accounts receivable is unchanged.

Working capital is decreased when bad debt expense is recorded because the contra-asset account (allowance for doubtful accounts) is increased. From requirement (1), we know that net accounts receivable was reduced by \$79,384,000 when bad debt expense was recorded in year 2.

Note that income before taxes was reduced by the amount of bad debt expense that was recorded, therefore tax expense and tax payable will decrease. The decrease in tax payable caused working capital to increase; therefore, the net decrease was \$79,384,000 - (\$79,384,000 x 30%) = \$55,568,800.

Req. 3

The entry to record the write-off of an uncollectible account did not affect any income statement accounts; therefore, net income is unaffected by the \$69,000,000 write-off in year 2.

The recording of bad debt expense reduced income before taxes in year 2 by \$79,384,000 and reduced tax expense by \$23,815,200 (i.e., \$79,384,000 x 30%). Therefore, year 2 net income was reduced by \$55,568,800 (as computed in Req. 2).

E6-14.

Aged accounts receivable		Estimated percentage uncollectible		Estimated amount uncollectible
Not yet due	\$12,000	x	2%	= \$240
Up to 120 days past due	5,000	x	10%	= 500
Over 120 days past due	3,000	x	30%	= 900
				<u>\$1,640</u>
Current balance in Allowance for Doubtful Accounts				300
Bad Debt Expense for the year				<u>\$1,340</u>

E6-15.

Req. 1

December 31, 20A-Adjusting entry:

Bad debt expense (E).....	5,500	
Allowance for doubtful accounts (XA).....		5,500
To adjust for estimated bad debt expense for 20A (estimate provided by the manager which was 1% of total sales, \$550,000 x 1% = \$5,500).		

Req. 2

Bad debt expense (E).....	1,500	
Allowance for doubtful accounts (XA).....		1,500
To adjust for estimated bad debt expense for 20A based on credit sales, \$150,000 x 1% = \$1,500.		

The company manager was wrong. Only credit sales can cause bad debts. Therefore, the estimate should be \$1,500. The manager apparently misunderstood his friend (or his friend was not precise). A knowledgeable manager would not suggest a rate based on total sales.

Req. 3

Income statement:

Sales revenue (\$400,000 + \$150,000).....	\$550,000
Bad debt expense.....	1,500

Balance sheet:

Accounts receivable (\$150,000 - \$100,000).....	\$50,000
Less allowance for doubtful accounts.....	1,500
Accounts receivable, net of allowance for doubtful accounts.....	\$48,500

E6-16.

Req. 1

Dec. 31, 20G

Allowance for doubtful accounts (XA).....	1,500	
Accounts receivable (J. Doe) (A).....		1,500
To write off an account receivable determined to be uncollectible.		

Dec. 31, 20G

Bad debt expense (E).....	1,700	
Allowance for doubtful accounts (XA).....		1,700
Adjusting entry—estimated loss on uncollectible accounts; based on credit sales (\$85,000 x 2% = \$1,700).		

Req. 2

Income statement:

Operating expenses:	
Bad debt expense.....	\$1,700

Balance sheet:

Current assets			
Accounts receivable (\$10,000 + \$85,000 - \$68,000 - \$1,500).....	\$25,500		
Less: Allowance for doubtful accounts (\$800 - \$1,500 + \$1,700).....	1,000	\$24,500	

Req. 3

The 2% rate on credit sales appears reasonable because it approximates the amount of receivables written off (\$1,500) during the year. However, if the uncollectible account receivable written off during 20G is not indicative of average uncollectibles written off over a period of time, the 2% rate may not be appropriate. There is not sufficient historical data to make a definitive decision.

E6-17.

Req. 1

$$\text{Receivables turnover} = \frac{\text{Net Sales}}{\text{Average Net Trade Accounts Receivable}} = \frac{\$7,015,069}{\$882,539^*} = 7.95 \text{ times}$$

$$\text{Average days sales in receivables} = \frac{365}{\text{Receivables Turnover}} = \frac{365}{7.95} = 45.9 \text{ days}$$

$$^* (\$997,808 + \$767,270) \div 2$$

Req. 2

The receivables turnover ratio reflects how many times average trade receivables were recorded and collected during the period. The average days sales in receivables indicates the average time it takes a customer to pay its accounts.

E6-18.

Req. 1

\$55,500	Unadjusted net trade accounts receivable
(6,500)	Bad debt expense adjustment (\$650,000 x .01)
49,000	End-of-the-year balance
50,000	Beginning-of-the-year balance
\$49,500	Average net trade accounts receivable

$$\text{Receivables turnover} = \frac{\text{Net Sales}}{\text{Average Net Trade Accounts Receivable}} = \frac{\$650,000}{\$49,500} = 13.1 \text{ times}$$

Req. 2

Same answer as part 1.

Req. 3

The two amounts do not differ because the write-off of an account does not change net trade accounts receivable. A write-off simultaneously decreases gross accounts receivable and the allowance for doubtful accounts, leaving the net trade accounts receivable balance unchanged.

E6-19.

Req. 1

The change in the accounts receivable balance would increase cash flow from operations by \$15,337 thousand. This happens because the Company is collecting cash faster than it is recording credit sales revenue.

Req. 2

- (a) Declining sales revenue leads to lower accounts receivable because fewer new credit sales are available to replace the receivables that are being collected.
- (b) Cash collections from prior period's higher credit sales are greater than the new credit sales revenue. Note that in the next period, cash collections will also decline.

E6-20.

Req. 1

The change in the accounts receivable balance would decrease cash flow from operations by \$292,888 thousand. This happens because the Company is recording credit sales revenue faster than it is collecting cash.

Req. 2

- (a) Increasing sales revenue leads to higher accounts receivable balances because credit sales are creating new receivables faster than receivables can be collected.
- (b) Cash collections from prior period's lower credit sales are lower than the new credit sales revenue. Note that in the next period, cash collections will also rise.

E6-21.

Include:

Cash on hand (\$700 + \$100 + \$200 + \$200)	\$1,200	
Cash held for making change	300	
Bank accounts:		
City Bank	\$58,600	
National Bank	3,350	
Southwest Bank	785	
State Bank	965	63,700
Metropolitan Bank – 3-Month Certificate of Deposit.....		5,800

Do not include:

South Bank – 6-month Certificate of Deposit (report as short-term investment).....	850	<u>-0-</u>
--	-----	------------

Total cash and cash equivalents reported on 20A balance sheet..... **\$71,000**

Cash equivalents are investments with original maturities of three months or less that are readily convertible to cash and whose value is unlikely to change. The 6-month CD does not qualify.

E6-22.

Req. 1

JONES COMPANY
Bank Reconciliation, June 30, 20B

Company's Books		Bank Statement	
Ending balance per Cash account.....	\$7,400	Ending balance per bank statement.....	\$6,050
Additions:		Additions:	
None		Deposit in transit.....	<u>2,000*</u> 8,050
Deductions:		Deductions:	
Bank service charge.....	<u>50</u>	Outstanding checks... ..	<u>700</u>
Correct cash balance.....	<u>\$7,350</u>	Correct cash balance.....	<u>\$7,350</u>

*\$19,000 – \$17,000 = \$2,000.

Req. 2

Bank service charge expense (E).....	50	
Cash (A).....		50
To record deduction from bank account for service charges.		

Req. 3

The correct cash balance per the bank reconciliation (\$7,400 – \$50), \$7,350

Req. 4

Balance sheet (June 30, 20B):	
Current assets:	
Cash (\$7,350 + \$300).....	\$7,650

E6-23.

Req. 1

RUSSELL COMPANY
Bank Reconciliation, September 30, 20D

Company's Books		Bank Statement	
Ending balance per Cash account.....	\$5,700	Ending balance per bank statement.....	\$4,600
Additions:		Additions:	
None		Deposit in transit*	<u>1,000*</u> 5,600
Deductions:		Deductions:	
Bank service charges ...	\$ 50	Outstanding checks	
NSF check – Betty Brown.....	<u>150</u>	(\$28,600 – \$28,500)	<u>100</u>
Correct cash balance.....	<u>\$5,500</u>	Correct cash balance.....	<u>\$5,500</u>

*\$28,000 - \$27,000 = \$1,000.

Req. 2

(1) Bank service charge expense (E).....	50	
Cash (A).....		50
To record bank service charges deducted from bank balance.		
(2) Accounts receivable (Betty Brown) (A).....	150	
Cash (A).....		150
To record customer check returned due to insufficient funds.		

Req. 3

Same as the correct balance on the reconciliation, \$5,500.

Req. 4

Balance Sheet (September 30, 20D):	
Current Assets:	
Cash (\$5,500 + \$400).....	\$5,900

E6-24 (Based on Supplement A).

	20A	20B	20C
Revenue	\$2,400,000	\$6,000,000	\$3,600,000
Expenses	2,000,000	5,000,000	3,000,000
Net income	\$ 400,000	\$1,000,000	\$ 600,000

Computations:

20A: $(\$2,000,000 + \$10,000,000) \times \$12,000,000 = \$2,400,000$
 20B: $(\$5,000,000 + \$10,000,000) \times \$12,000,000 = \$6,000,000$
 20C: $(\$3,000,000 + \$10,000,000) \times \$12,000,000 = \$3,600,000$

E6-25 (Based on Supplement B).

November 20, 20B			
Cash (A)		392	
Credit card discount (XR)		8	
Sales revenue (R)			400
To record credit card sale.			
November 25, 20B:			
Accounts receivable (Customer C) (A)	4,000		
Sales revenue (R)			4,000
To record a credit sale.			
November 28, 20B:			
Accounts receivable (Customer D) (A)	6,000		
Sales revenue (R)			6,000
To record a credit sale.			
November 30, 20B:			
Sales returns and allowances (XR)	600		
Accounts receivable (Customer D) (A)			600
To record return of defective goods $\$6,000 \times 1/10 = \600 .			
December 6, 20B:			
Cash (A)		5,238	
Sales discounts (XR)		162	
Accounts receivable (Customer D) (A)			5,400
To record collection within the discount period, $97 \times (\$6,000 - \$600) = \$5,238$			
December 30, 20B:			
Cash (A)		4,000	
Accounts receivable (Customer C) (A)			4,000
To record collection after the discount period.			

PROBLEMS

P6-1.

Case A

Because McDonald's collects cash when the coupon books are sold, cash collection is not an issue in this case. In order to determine if the revenue has been earned, the student must be careful in analyzing what McDonald's actually sold. Students who focus on the sale of the coupon book often conclude that the earning process is complete with the delivery of the book to the customer. In reality, McDonald's has a significant additional service to perform; it has to serve a meal. The correct point for revenue recognition in this case is when the customer uses the coupon or when the coupon expires and McDonald's has no further obligation.

Case B

In this case there is an extremely low down payment and some reason to believe that Quality Builders may default on the contract because of prior actions. If students believe that Howard Development could sue and collect on the contract, they will probably argue for revenue recognition. Given the risk of cash collection, most students will argue that revenue should be recognized as cash is collected. The text does not discuss FASB #66, but the instructor may want to mention during the discussion that there is authoritative guidance concerning minimum down payments before revenue can be recorded on a land sale.

Case C

The text discusses requirements for the appropriate use of the percentage of completion method. Some students want to use the method in this case because the project extends over a number of years but it would be inappropriate to do so because there is no certainty that cash will be ultimately collected. Percentage of completion may be used only if a purchaser is obligated by contract to buy the finished product.

Case D

While warranty work on some cars can involve significant amounts of effort and money, car companies are permitted to record revenue at the point of sale. The text does not discuss this specific issue but the matching concept is mentioned in the context of revenue recognition. This is an excellent opportunity to mention the need to accrue estimated warranty expense at the time that sales revenue is recorded. Some students are surprised to see that costs that will be incurred in the future can be recorded as an expense in the current accounting period.

P6-2.

Req. 1

	Sales Revenue	Sales Discounts (taken)	Sales Returns and Allowances	Bad Debt Expense
(a)	+228,000	NE	NE	NE
(b)	+12,000	NE	NE	NE
(c)	+26,000	NE	NE	NE
(d)	NE	NE	+500	NE
(e)	+24,000	NE	NE	NE
(f)	NE	+230	NE	NE
(g)	NE	+2,000	NE	NE
(h)	NE	+520	NE	NE
(i)	+17,000	NE	NE	NE
(j)	NE	-70	+3,500	NE
(k)	NE	NE	NE	NE
(l)	NE	NE	NE	NE
(m)	NE	NE	NE	+750*
Total	+\$307,000	+\$2,680	+\$4,000	+\$750

* Credit sales $(\$12,000 + \$26,000 + \$24,000 + \$17,000) \dots$ \$79,000
 Less: Sales returns $(\$500 + \$3,500) \dots$ 4,000
 Net sales revenue..... \$75,000
 Estimated bad debt rate..... $\times \underline{\hspace{1cm}} 1\%$
 Bad debt expense..... \$750

Req. 2

Income statement:

Sales revenue	\$307,000
Less: Sales returns and allowances	4,000
Sales discounts	2,680
Net sales revenue	\$300,320
Bad debt expense	750

P6-3.

Income Statement Items

	Case A Note-See below	Case B Note-See below
Gross sales revenue	\$160,000*	\$232,000*
Sales returns and allowances	h. 16,250	18,000*
Net sales revenue	g. 143,750	a. 214,000
Cost of goods sold	i. (68%*) 97,750	c. 149,800
Gross profit	f. 46,000	b. (30%*) 64,200
Operating expenses	18,500*	d. 44,200
Pretax income	d. 27,500	e. 20,000*
Income tax expense (20%)*	e. 5,500	e. 4,000
Income before extraordinary items	c. 22,000	f. 16,000
Extraordinary items	(gain*) 10,000*	(loss*) (2,000)*
Less: Income tax (20%)*	b. (2,000)	g. 400
Net income	a. \$30,000	h. \$14,400
Earnings per share (10,000 shares*)	\$3.00*	i. \$1.44

*Amounts given.

Note = Computations in order

CASE A

- $\$3.00 \times 10,000 \text{ shares} = \$30,000$
- $\$10,000 \times .20 = \$2,000$
- $\$30,000 - (\$10,000 - \$2,000) = \$22,000$
- $\$22,000 + (\$10,000 - .20) = \$27,500$
- $\$27,500 \times .20 = \$5,500$
- $\$27,500 + \$18,500 = \$46,000$
- $\$46,000 + (\$10,000 - .68) = \$143,750$
- $\$160,000 - \$143,750 = \$16,250$
- $\$143,750 \times .68 = \$97,750$

CASE B

- $\$232,000 - \$18,000 = \$214,000$
- $\$214,000 \times .30 = \$64,200$
- $\$214,000 - \$64,200 = \$149,800$
- $\$64,200 - \$20,000 = \$44,200$
- $\$20,000 \times .20 = \$4,000$
- $\$20,000 - \$4,000 = \$16,000$
- $\$2,000 \times .20 = \400
- $\$16,000 - \$2,000 + \$400 = \$14,400$
- $\$14,400 + 10,000 \text{ shares} = \1.44

P6-4.

1.	Bad debt expense (E).....	4.5				
	Allowance for doubtful accounts (XA).....		4.5			
	End-of-period bad debt expense estimate.					
	Allowance for doubtful accounts (XA).....	2.7				
	Accounts receivable (A).....		2.7			
	Write-off of bad debts.					
	Accounts receivable(A).....	.2				
	Allowance for doubtful accounts (XA).....		.2			
	Reinstatement of previously written-off accounts.					
2.	December 31, 20B.....	\$7.1	\$4.8	<u>\$3.7</u>	\$8.2	
	December 31, 20A.....	\$6.4	<u>\$3.8</u>	\$2	\$3.3	\$7.1

Allowance for DA 20B		Allowance for DA 20A	
	7.1 Beg. bal.		6.4 Beg. bal.
Write-offs <u>3.7</u>	4.8 Bad debt exp.	Write-offs 3.3	<u>3.8</u> Bad debt exp.
	8.2 End. bal.		.2 Reinstatments
			7.1 Ending Bal.

The solution involves solving for the missing value in the T-account.

Carrying value..... 338,340

P6-5.

Req. 1

Customer	Total Receivable	(a) Not Yet Due	(b) Up to One Year Past Due	(c) More Than One Year Past Due
B. Brown.....	\$ 5,000			\$5,000
D. Donalds.....	4,000		\$ 4,000	
N. Napier.....	7,000	\$ 7,000		
S. Strothers.....	19,000	3,000	16,000	
T. Thomas.....	6,000	6,000		
Totals.....	\$41,000	\$16,000	\$20,000	\$5,000
Percent.....	100%	39%	49%	12%

Req. 2

Age	Amount of Receivable	Estimated Loss Rate	Estimated Uncollectible
a. Not yet due.....	\$16,000	1%	\$ 160
b. Up to one year past due.....	20,000	5%	1,000
c. Over one year past due.....	5,000	30%	1,500
Total.....	\$41,000		\$2,660

Req. 3

Bad debt expense (E).....	1,640	
Allowance for doubtful accounts (XA).....		1,640
To adjust for estimated bad debt loss:		
Balance needed in the allowance account.....	\$2,660	
Balance currently in the account.....	<u>1,020</u>	
Adjustment needed (increase).....	<u>\$1,640</u>	

Req. 4

Income statement:	
Bad debt expense.....	\$1,640
Balance sheet:	
Current Assets:	
Accounts receivable.....	\$41,000
Less: Allowance for doubtful accounts.....	<u>2,660</u>

P6-6.

Req.1

BUILDERS COMPANY, INC.
Income Statement
For the Year Ended December 31, 20D

Gross sales revenue.....	\$182,000
Less: Sales discounts.....	8,000
Sales returns and allowances.....	7,000
Net sales revenue.....	167,000
Cost of goods sold.....	98,000
Gross profit on sales.....	69,000
Operating expenses:	
Selling expenses.....	\$17,000
Administrative expenses.....	18,000
Bad debt expense.....	<u>2,000</u>
Operating income.....	32,000
Income tax expense.....	9,600
Net income.....	<u>\$22,400</u>
Earnings per share on capital stock outstanding	
(\$22,400 ÷ 10,000 shares).....	<u>\$2.24</u>

Req.2

$$\text{Gross Profit Percentage} = \frac{\text{Gross Profit}}{\text{Net Sales}} = \frac{\$69,000}{\$167,000} = 0.413 \text{ (41.3\%)}$$

The gross profit percentage measures the excess of sales prices over the costs to purchase or produce the goods or services sold as a percentage.

P6-7.

Req.1

	Projected change	No change from beginning of year
Receivables Turnover = $\frac{\text{Net Sales}}{\text{Average Net Trade Accounts Receivable}}$	$\frac{\$7,015,069}{\$807,039^*} = 8.7$	$\frac{\$7,015,069}{\$963,808} = 7.3$

* $(\$963,808 + \$650,270) \div 2$

Req.2

Projected decrease in accounts receivable = $\$963,808 - \$650,270 = \$313,538$

A decrease in accounts receivable would increase cash, all other items held equal.

Req.3

An increase in the receivables turnover ratio indicates that there has been an increase in the number of times average trade receivables were recorded and collected during the period. All other things equal, this indicates an increase in the rate at which receivables are collected, which will increase cash flow from operating activities for the period. This can benefit the company by providing additional liquidity for the company in its day to day operations, reducing the need for additional borrowing.

P6-8.

Req. 1

(a) \$50 x 12 months	= \$ 600
(b) \$12 x (52 weeks x 5 days per week)	= 3,120
(c,d) Accounts receivable collections (\$300 + \$800)	= 1,100
Total approximate amount stolen	<u>\$4,820</u>

Req. 2

Basic recommendations:

- (1) Install a tight system of internal control, including the following:
 - a. Separate cash handling from recordkeeping.
 - b. Deposit all cash daily.
 - c. Make all payments by check. Consider a separate cash on hand system for small expense payments.
 - d. Reconcile bank statement monthly.
 - e. Institute a system of spot checks.
 - f. Establish cash and paperwork flows.
- (2)
 - a. Arrange for an annual independent audit on a continuing basis.
 - b. Carefully plan and assign definite responsibilities for all employees. Focus on attaining internal control. Isolate the once trusted employee from all cash handling and accounting activities.

P6-9.

Req. 1

HOPKINS COMPANY			
Bank Reconciliation, April 30, 20D			
Company's Books		Bank Statement	
Ending balance per Cash account.....	\$21,450	Ending balance per bank statement.....	\$18,530
Additions:		Additions:	
Note receivable collected	\$1,000	Deposits in transit*.....	6,000
Interest collected	70		24,530
	<u>1,070</u>		
	22,520		
Deductions:		Deductions:	
NSF—A.B. Wright.....	140	Outstanding checks	2,200
Bank charges	50		
	<u>190</u>	Correct cash balance	<u>\$22,330</u>
Correct cash balance.....	<u>\$22,330</u>		
*\$42,000 - \$36,000 = \$6,000.			

Req. 2

(1) Cash (A).....	1,070		
Notes receivable (A).....		1,000	
Interest revenue (R).....		70	
Note receivable and interest collected.			
(2) Accounts receivable (A. B. Wright) (A).....	140		
Cash (A).....		140	
Customer's check returned, insufficient funds.			
(3) Bank service charge expense (E).....	50		
Cash (A).....		50	
Bank service charges deducted from bank statements.			

These entries are necessary because of the changes to the regular Cash account that have not yet been recorded by the company. The bank already has recorded them in its accounts. The Cash account (and the other accounts in the entries) must be brought up to date for financial statement purposes.

Req. 3

Balance in regular Cash account.....	\$22,330
Balance Cash on Hand account.....	\$ 100

Req. 4

Balance Sheet (April 30, 20D):	
Current Assets:	
Cash (\$22,330 + \$100).....	\$22,430

P6-10.

Req. 1

Comparison of deposits listed in the Cash account with deposits listed on the bank statement reveals a \$5,000 deposit in transit on August 31.

Req. 2

Comparison of the checks cleared on the bank statement with (a) outstanding checks from July, and (b) checks written in August reveals two outstanding checks at the end of August (\$290 + \$550 = \$840).

Req. 3

MARTHA COMPANY			
Bank Reconciliation, August 31, 20B			
Company's Books		Bank Statement	
Ending balance per Cash account.....	\$20,280	Ending balance per bank statement.....	\$18,200
Additions:		Additions:	
Note receivable collected	\$2,000	Deposits in transit.....	5,000
Interest collected	180		23,200
	<u>2,180</u>		
	22,460		
Deductions:		Deductions:	
Bank service charges	100	Outstanding checks	840
Correct cash balance.....	<u>\$22,360</u>	Correct cash balance	<u>\$22,360</u>

Req. 4

(1) Cash (A).....	2,180		
Note receivable (A).....		2,000	
Interest revenue (R).....		180	
Note receivable plus interest collected (by bank).			
(2) Bank service charge expense (E)	100		
Cash (A).....		100	
Service charges deducted from bank balance.			

These entries are necessary because of the changes in the regular Cash account that have not yet been recorded by the company. The bank already has recorded them in its accounts. The Cash account (and the other accounts in the entries) must be brought up to date for financial statement purposes.

Req. 5

Balance in Cash account.....	\$22,360
Balance in Cash on Hand account.....	\$ 200

Req. 6

Current Assets:

Cash (\$22,360 + \$200)..... \$22,560

P6-11. (continued)

(j)	Sales returns and allowances (XR).....	3,500	
	Cash (A).....		3,430
	Sales discounts (XR).....		70
	Sales return, 7 units @ \$500 less sales discounts taken = \$3,500 x .98.		
(k)	Cash (A).....	7,000	
	Accounts receivable (A).....		7,000
	Collected receivable of prior year, after the discount period.		
(l)	Allowance for doubtful accounts (XA).....	2,900	
	Accounts receivable (20A account) (A).....		2,900
	Wrote off uncollectible account from 20A.		
(m)	Bad debt expense (E).....	750	
	Allowance for doubtful accounts (XA).....		750
	To adjust for estimated bad debt expense (\$12,000 + \$26,000 + \$24,000 + \$17,000 - \$500 - \$3,500) x 1% = \$750.		

Req. 2

Income statement:

Sales revenue (\$228,000 + \$12,000 + \$26,000 + \$24,000 + \$17,000).....	\$307,000	
Less: Sales returns and allowances (\$3,500 + \$500).....	4,000	
Sales discounts (\$230 + \$2,000 + \$520 - \$70).....	2,680	
Net sales revenue.....		\$300,320
Bad debt expense.....		750

P6-11. (Based on Supplement B)

Req. 1

(a)	Cash (A).....	228,000	
	Sales revenue (R).....		228,000
	Cash sales for 20C.		
(b)	Accounts receivable (R. Jones) (A).....	12,000	
	Sales revenue (R).....		12,000
	Credit sale, \$12,000.		
(c)	Accounts receivable (K. Black) (A).....	26,000	
	Sales revenue (R).....		26,000
	Credit sale, \$26,000.		
(d)	Sales returns and allowances (XR).....	500	
	Accounts receivable (R. Jones) (A).....		500
	Sale return, 1 unit @ \$500.		
(e)	Accounts receivable (B. Sears) (A).....	24,000	
	Sales revenue (R).....		24,000
	Credit sale, \$24,000.		
(f)	Cash (A).....	11,270	
	Sales discount (XR).....		230
	Accounts receivable (R. Jones) (A).....		11,500
	Paid account in full within discount period, (\$12,000 - \$500) x (1 - .02) = \$11,270.		
(g)	Cash (A).....	98,000	
	Sales discount (XR).....		2,000
	Accounts receivable (prior year) (A).....		100,000
	Collected receivables of prior year, all within discount periods \$98,000 ÷ .98 = \$100,000.		
(h)	Cash (A).....	25,480	
	Sales discount (XR).....		520
	Accounts receivable (K. Black) (A).....		26,000
	Collected receivable within the discount period \$26,000 x .98.		
(i)	Accounts receivable (R. Roy) (A).....	17,000	
	Sales revenue (R).....		17,000
	Credit sale.		

ALTERNATE PROBLEMS

AP6-1.

Req. 1

	Sales Revenue	Sales Discounts (taken)	Sales Returns and Allowances	Bad Debt Expense
(a)	+122,000	NE	NE	NE
(b)	+6,800	NE	NE	NE
(c)	+14,000	NE	NE	NE
(d)	NE	+204	NE	NE
(e)	+12,400	NE	NE	NE
(f)	NE	-48	+1,600	NE
(g)	NE	+2,412*	NE	NE
(h)	NE	NE	+800	NE
(i)	NE	+396	NE	NE
(j)	+9,000	NE	NE	NE
(k)	NE	NE	NE	NE
(l)	NE	NE	NE	NE
(m)	NE	NE	NE	+796**
Total	+\$164,200	+\$2,964	+\$2,400	+\$796

* [(78,000/.97) x .03] = 2,412

**Credit sales (\$6,800 + \$14,000 + \$12,400 + \$9,000)..... \$42,200
 Less: Sales returns (\$1,600 + \$800)..... 2,400
 Net sales revenue..... \$39,800
 Estimated bad debt rate..... x 2%
 Bad debt expense..... \$796

Req. 2

Income statement:

Sales revenue.....	\$164,200	
Less: Sales returns and allowances.....	2,400	
Sales discounts.....	2,964	
Net sales revenue.....		\$158,836
Bad debt expense.....		796

AP6-2.

1.	Bad debt expense (E).....	4,908
	Allowance for doubtful accounts (XA).....	4,908
	End of period bad debt expense estimate.	
	Allowance for doubtful accounts (XA).....	5,060
	Accounts receivable (A).....	5,060
	Write-off of bad debts.	

2.				
	Allowances for Doubtful Accounts and Discounts	Balance at Beginning of Year	Additions Charged to Costs and Expenses	Deductions From Reserve
				Balance at End of Year
	January 1, 20C	\$2,032	\$4,908	\$5,060
				<u>\$1,880</u>
	January 2, 20B	1,234	<u>5,475</u>	4,677
				2,032
	January 3, 20A	940	5,269	<u>4,975</u>
				1,234

January 1, 20C	Allowance for Doubtful Accounts			
		2,032	Beg. bal.	
Write-offs	5,060	4,908	Bad debts exp.	
		<u>1,880</u>	End. bal.	

January 2, 20B	Allowance for DA 20B			
		1,234	Beg. bal.	
Write-offs	4,677	<u>5,475</u>	Bad debts exp.	
		<u>2,032</u>	End. bal.	

January 3, 20A	Allowance for DA 20A			
		940	Beg. bal.	
Write-offs	<u>4,975</u>	5,269	Bad debts exp.	
		1,234	Ending bal.	

The solution involves solving for the missing value in the T-account.

Carrying value..... \$35,225

AP6-3.

Req. 1

Aging Analysis of Accounts Receivable

Customer	Total Receivable	(a) Not Yet Due	(b) Up to 6 Mo. Past Due	(c) 6 to 12 Mo. Past Due	(d) More Than 12 Mo. Past Due
R. Devens	\$ 2,000			\$2,000	
C. Howard	6,000				\$6,000
D. McClain	4,000		\$ 4,000		
T. Skibinski	14,500	\$ 4,500	10,000		
H. Wu	13,000	13,000			
Totals.....	\$39,500	\$17,500	\$14,000	\$2,000	\$6,000
Percent.....	100%	44.3%	35.4%	5.1%	15.2%

Req. 2

Estimated Amounts Uncollectible

Age	Amount of Receivable	Estimated Loss Rate	Estimated Uncollectible
a. Not yet due.....	\$17,500	1%	\$ 175
b. Up to 6 months past due.....	14,000	5%	700
b. 6 to 12 months past due.....	2,000	20%	400
c. Over 12 months past due.....	6,000	50%	3,000
Total.....	\$39,500		\$4,275

Req. 3

Bad debt expense (E)	2,725
Allowance for doubtful accounts (XA)	2,725

To adjust for estimated bad debt loss:

Balance needed in the allowance account.....	\$4,275
Balance currently in the account.....	<u>1,550</u>
Adjustment needed (increase)	<u>\$2,725</u>

Req. 4

Income statement:	
Bad debt expense.....	\$2,725
Balance sheet:	
Current Assets:	
Accounts receivable.....	\$39,500
Less: Allowance for doubtful accounts.....	<u>4,275</u>

AP6-4.

Req. 1

**BIG TOMMY CORPORATION
Income Statement
For the Year Ended December 31, 20G**

Gross sales revenue	\$420,000
Less: Sales returns and allowances	<u>10,000</u>
Net sales revenue.....	410,000
Cost of goods sold.....	<u>279,000</u>
Gross profit.....	131,000
Operating expenses:	
Selling expenses.....	\$58,000
Administrative expenses.....	16,000
Sales discounts.....	6,000
Bad debt expense.....	<u>1,000</u>
Total operating expenses.....	<u>81,000</u>
Operating income.....	50,000
Income tax expense	<u>15,000</u>
Net income.....	<u>\$35,000</u>
Earnings per share on common stock outstanding (\$35,000 ÷ 6,000 shares).....	<u>\$5.83</u>

Req.2

$$\text{Gross Profit Percentage} = \frac{\text{Gross Profit}}{\text{Net Sales}} = \frac{\$131,000}{\$410,000} = 0.320 \text{ (32.0\%)}$$

The gross profit percentage measures the excess of sales prices over the costs to purchase or produce the goods or services sold as a percentage.

AP6-5.

Req. 1

Comparison of (a) the unrecorded deposit carried over from November and (b) the deposits listed on the bank statement reveals that the \$13,000 deposit for December 31 is in transit.

Req. 2

Comparison of the checks cleared on the bank statement with (a) outstanding checks from November and (b) checks written in December reveals that the outstanding checks at the end of December are \$5,000 + \$3,300 + \$500 = \$8,800.

Req. 3

PACKER COMPANY
Bank Reconciliation, December 31, 20B

Company's Books		Bank Statement	
Ending balance per Cash account.....	\$61,260	Ending balance per bank statement.....	\$61,860
Additions:		Additions:	
Note receivable collected	\$5,000	Deposits in transit.....	13,000
Interest collected	250		
	5,250		74,860
	66,510		
Deductions:		Deductions:	
NSF check—J. Left.....	300	Outstanding checks.....	8,800
Bank service charges	150	Correct cash balance.....	\$66,060
Correct cash balance.....	\$66,060		

CASES AND PROJECTS

FINANCIAL REPORTING AND ANALYSIS CASES

CP6-1.

- The company held \$71,940 thousand of cash and cash equivalents at the end of the current year. This is disclosed on the balance sheet and the statement of cash flows.
- No, the company does not report an allowance for doubtful accounts on the balance or in the notes. Note 4 provides additional information on the accounts receivable account. As a retailer, its trade receivables from customers are immaterial—the company's receivables consist of non-trade receivables and notes receivable.
-

	1999	1998
Gross Profit Percentage = $\frac{\text{Gross Profit}}{\text{Net Sales}}$	$\frac{\$234,511}{\$587,600} = 0.399$	$\frac{\$136,967}{\$405,713} = 0.338$

The gross profit percentage increased from 1998 to 1999. The increase implies that the company has improved its ability to charge premium prices or to purchase goods for resale at lower cost.

- No, the company does not explicitly disclose its revenue recognition policy. Note 2 provides the summary of significant accounting policies. Given that it is a retailer, it would likely record revenues at the point-of-sale.

AP6-5. (continued)

Req. 4

(1) Accounts receivable (J. Left) (A).....	300	
Cash (A).....		300
To record NSF check.		
(2) Cash (A).....	5,250	
Note receivable (A).....		5,000
Interest revenue (R).....		250
Note receivable plus interest collected.		
(3) Bank service charge expense (E).....	150	
Cash (A).....		150
Service charges deducted from bank balance.		

These entries are necessary because of the changes in the regular Cash account that have not yet been recorded by the company. The bank already has recorded them in its accounts. The Cash account (and the other accounts in the entries) must be brought up to date for financial statement purposes.

Req. 5

Cash account.....	\$66,060
Cash on Hand account.....	\$ 300

Req. 6

Balance Sheet (20B):	
Current Assets:	
Cash (\$66,060 + \$300).....	\$66,360

CP6-2.

- The company reports that the market value of its cash and cash equivalents is approximately the same as their carrying value at amortized cost. This is disclosed in the significant accounting policies note. This statement is likely true given the short-term nature of the securities included in cash equivalents—highly liquid investments with original maturities of less than three months.
- Sales Discounts and Sales Returns would likely be subtracted from Sales Revenue in the computation of Net Sales.
- In addition to Cost of Goods Sold, Urban Outfitters subtracts certain buying, distribution and occupancy costs from Net Sales in its computation of Gross Profit. No such additional expenses appear to be subtracted in Timberland's computation of Gross Profit. This makes the interpretation of gross profit percentages across different companies difficult.
- $$\text{Receivables turnover} = \frac{\text{Net Sales}}{\frac{\text{Average Net Trade}}{\text{Accounts Receivable}}} = \frac{\$208,969}{\frac{\$4,660.5^*}{2}} = 44.8 \text{ times}$$

* $(\$4,824 + \$4,497) \div 2$

The receivables turnover is so high because of the nature of the company's business. Retail sales are likely to be made with cash or credit card.

- Receivables increased by \$314 thousand, decreasing Net Cash Provided by Operating Activities for the current year. This is disclosed on the statement of cash flows. Note that this amount equals the change in accounts receivable (gross, that is with allowance for doubtful accounts added back) on the balance sheet. The company accounts for the change in the allowance for doubtful accounts on a separate line on the cash flow statement.

CP6-3.

1.

Current year	Urban Outfitters	American Eagle Outfitters
Gross Profit Percentage = $\frac{\text{Gross Profit}}{\text{Net Sales}}$	$\frac{\$79,344}{\$208,969} = 0.380$	$\frac{\$234,511}{\$587,600} = 0.399$

Urban Outfitters is both a wholesaler and retailer whereas American Eagle Outfitters is a retailer. In its Management's Discussion and Analysis, Urban indicates that due to reduced sales in the wholesale division, it had to sell more merchandise in the "off-price" sector. The lower prices charged lowered gross margin on these sales.

2. Companies with unique items for sale or valuable brand images often produce higher gross profit margins. Because American Eagle Outfitters and Urban Outfitters have unique items for sale as well as valuable brand images in certain markets, their margins are predicted to be higher than the industry average.

3.

	Industry Average	Urban Outfitters	American Eagle Outfitters
Gross Profit Percentage =	36.5%	38.0%	39.9%

Both Urban Outfitters' and American Eagle Outfitters' gross profit percentage are above the industry average. This is what was anticipated in Requirement 2.

4.

Urban Outfitters	1999	1998
Receivables Turnover = $\frac{\text{Net Sales}}{\text{Average Net Trade Accounts Receivable}}$	$\frac{\$208,969}{\$4,660.5^*} = 44.8$	$\frac{\$173,121}{\$3,662.0^{**}} = 47.3$

* $(\$4,824 + \$4,497) \div 2$
 ** $(\$4,497 + \$2,827 \text{ given}) \div 2$

The decrease in receivables turnover is due to the increase in receivables between the end of 1997 and 1998. Since current year's sales increased by 20.7% over last year, and ending accounts receivable increased by only 7.3%, most analysts would not take this as a bad sign. This illustrates why some analysts prefer to compute this ratio based on ending accounts receivable.

CP6-4.

Three main recommendations are made. First, establish a credit application process to verify creditworthiness. This would include obtaining credit reports (e.g., from Dun & Bradstreet, if available), bank information, trade references, and information on the responsible individuals (the owners and the officers of the company).

Second, once the credit process is in place, follow it. Customers who fail the credit application should not be extended credit. This may be harder than it sounds, since many incentives exist to increase sales revenue. Consider additional incentives for the sales force based on the collectability of the account—for example, a reduction in sales commissions for any accounts that remain uncollected after a specified period of time.

Third, monitor accounts receivable and followup on slow payments. This includes sending out timely reminder notices and contacting the company directly with a phone call. After a certain amount of time, turn the unpaid bill over to a collection agency. Finally, if the account remains unpaid, notify trade or business organizations about the non-payment.

CP6-5.

1. Allowance for doubtful accounts = "Provision for doubtful debts"
 Bad debt expense = "Amounts set aside for doubtful debts"
2. Receivables turnover = $\frac{\text{Net Sales}}{\text{Average Net Trade Accounts Receivable}} = \frac{\$9,978,875}{\$1,078,526.5^*} = 9.25 \text{ times}$

* $(\$792,193 + \$999,159) \div 2 + (\$164,808 + \$200,893) \div 2$

3.

	Trade debtors	Other debtors
Provision for doubtful debts	$\frac{\$121,449}{\$792,193} = 0.153$	$\frac{\$384}{\$192,330} = 0.002$
Trade receivables		

The "other debtors" most likely include officers and employees of the company, related companies, and others who are much more likely to pay their debts than the average trade debtor.

4.

Allowance for doubtful accounts			
	247,974	Beg. bal. (238,110 + 2,464 + 7,400)	
Write-Offs (solve)	139,592	21,371	Bad debt exp. (21,143 + 228)
	129,753	End. bal. (121,449 + 384 + 7,920)	

CRITICAL THINKING CASES

CP6-6.

Req. 1

The CPA was concerned because of the sequence of events as follows:

- (a) The opening of a new Account Receivable of \$2,500 (an unusually large amount and a "new" name unknown to the auditor).
- (b) The write-off of bad debts at year-end rather than during the year.
- (c) The nearness of the creation of the new account receivable of \$2,500 to the write-offs of three accounts of regular customers for a sum of \$2,500.
- (d) The auditor knew the "regular" credit customers (Jones, Blake, and Sellers) and doubted that any of them would default on a debt.

The sequence of events appears to have been:

- a. At completion of the job, \$2,500 was collected in cash from the new customer and pocketed by the clerk-bookkeeper.
- b. To cover the theft, and yet provide a record of the transaction, a fictitious Account receivable was debited for the \$2,500, instead of Cash.
- c. When the three regular customers paid their accounts, Cash was debited for a total of \$2,500 and the fictitious Account Receivable credited for the same amount. The regular customers' accounts were credited as bad debts so that they would not be billed nor have reason to call attention to incorrect balances. All the bookkeeper had to do was find one account, or a combination of account balances, to write off a total of \$2,500. This was done: $\$800 + \$750 + \$950 = \$2,500$.

The outside CPA has a professional responsibility to report these concerns and findings to the owner.

Req. 2--Recommendations:

- (a) Report the circumstances to the owner. Do not recommend in respect to the clerk-bookkeeper; the owner must make the personnel decisions involved.

CP6-6. (continued)

- (b) Recommendations on internal control measures:
- (1) Separate cash-handling function from the related recordkeeping function.
 - (2) Establish a definite routine for handling cash receipts.
 - (3) Deposit all cash receipts intact each day.
 - (4) Make all payments (except for cash on hand payments) by check. Do not sign checks in advance. Require that supporting documents be attached to each check before signing. Designate all such documents as PAID when the check is signed.
 - (5) Establish a cash on hand fund. For control assign it to one person who is not involved in recordkeeping.
 - (6) Exercise strict control of write-offs of uncollectible accounts.
 - (7) Continue the annual audit.

CP6-7.

1. No, because the service is completed over a short time period and the difference in sales for that period from year to year is not large.
2. \$365,000,000 under each. For the fiscal year 20B, UPS recognizes revenues from December 31, 20A to December 30, 20B pickups (365 days). Federal Express recognizes revenues from January 1, 20B through December 30 pickups plus half of December 31, 20A and December 31, 20B pickups. Airborne recognizes revenues from January 1 through December 31, 20B pickups.
3. If there was a significant increase or decrease in pickups from year to year, the different methods could cause different amounts of revenue to be recognized in each period, though the total revenues over the life of the company would still remain the same.
4. Either the UPS or Federal Express rule is more correct conceptually (follow the revenue recognition rules). However, since the choice does not materially affect the financial statements, we have no preference among the three.

CP6-8.

1. Backdating sales orders and recording sales for goods or services that had not been shipped or delivered as of year-end violates the revenue principle. (Note that recording sales revenue "for fees that had not yet been received" is not a violation of the revenue principle.) Recording revenue for sales that were subject to cancellation, without estimating returns properly, is also a violation.
2. If the Company recognized revenue on such contracts, it should establish a sales returns and allowances account (a contra revenue) for potential cancellations. An estimate of future cancellations should be made and the amount should reduce net sales in the period the revenue is recognized.
3. Profiting from sales of stock they owned at an inflated stock price and receiving bonuses determined on the basis of growth in net income probably motivated management. Management was very focused on reporting increased growth because the growth fueled the run-up in the stock price.
4. The other investors who paid inflated amounts for the stock, customers who were poorly served during the period, and employees of the company who were drawn into the fraud and suffered damage to their reputations were all hurt by management's conduct.
5. Sales transactions booked near the end of the quarter and sales with special terms, e.g. right of return or cancellation, should receive special attention from auditors.

FINANCIAL REPORTING AND ANALYSIS PROJECTS**CP6-9 through CP6-15.**

The solutions to these cases will depend on the company and/or accounting period selected for analysis.

Chapter 7

Reporting and Interpreting Cost of Goods Sold and Inventory

ANSWERS TO QUESTIONS

1. Inventory often is one of the largest amounts listed under assets on the balance sheet which means that it represents a significant amount of the resources available to the business. The inventory may be excessive in amount, which is a needless waste of resources; alternatively it may be too low, which may result in lost sales. Therefore, for internal users inventory control is very important. On the income statement, inventory exerts a direct impact on the amount of income. Therefore, statement users are interested particularly in the amount of this effect and the way in which inventory is measured. Because of its impact on both the balance sheet and the income statement, it is of particular interest to all statement users.
2. Fundamentally, inventory should include those items, and only those items, legally owned by the business. That is, inventory should include all goods that the company owns, regardless of their particular location at the time.
3. The cost principle governs the measurement of the ending inventory amount. The ending inventory is determined in units and the cost of each unit is applied to that number. Under the cost principle, the unit cost is the sum of all costs incurred in obtaining one unit of the inventory item in its present state.
4. Goods available for sale is the sum of the beginning inventory and the amount of goods purchased during the period. Cost of goods sold is the amount of goods available for sale less the ending inventory.
5. Beginning inventory is the stock of goods on hand (in inventory) at the start of the accounting period. Ending inventory is the stock of goods on hand (in inventory) at the end of the accounting period. The ending inventory of one period automatically becomes the beginning inventory of the next period.

6. (a) **Weighted-average cost**—This inventory costing method in a periodic inventory system is based on a weighted-average cost for the entire period. At the **end** of the accounting period the average cost is computed by dividing the goods available for sale **in units** into the cost of goods available for sale **in dollars**. The computed unit cost then is used to determine the cost of goods sold for the period by multiplying the units sold by this average unit cost. Similarly, the ending inventory for the period is determined by multiplying this average unit cost by the number of units on hand.
- (b) **FIFO**—This inventory costing method views the first units purchased as the first units sold. Under this method cost of goods sold is costed at the oldest unit costs, and the ending inventory is costed at the newest unit costs.
- (c) **LIFO**—This inventory costing method assumes that the last units purchased are the first units sold. Under this method cost of goods sold is costed at the latest unit costs and the ending inventory is costed at the oldest unit costs.
- (d) **Specific identification**—This inventory costing method requires that each item in the beginning inventory and each item purchased during the period be identified specifically so that its unit cost can be determined by identifying the specific item sold. This method usually requires that each item be marked, often with a code that indicates its cost. When it is sold, that unit cost is the cost of goods sold amount. It often is characterized as a pick-and-choose method. When the ending inventory is taken, the specific items on hand, valued at the cost indicated on each of them, is the ending inventory amount.
7. The specific identification method of inventory costing is subject to manipulation. Manipulation is possible because one can, at the time of each sale, select (pick and choose) from the shelf the item that has the highest or the lowest (or some other) unit cost with no particular rationale for the choice. The rationale may be that it is desired to influence, by arbitrary choice, both the amount of income and the amount of ending inventory to be reported on the financial statements. To illustrate, assume item A is stocked and three are on the shelf. One cost \$100; the second one cost \$115; and the third cost \$125. Now assume that one unit is sold for \$200. If it is assumed arbitrarily that the first unit is sold, the gross profit will be \$100; if the second unit is selected, the gross profit will be \$85; or alternatively, if the third unit is selected, the gross profit will be \$75. Thus, the amount of gross profit (and income) will vary significantly depending upon which one of the three is selected arbitrarily from the shelf for this particular sale. This assumes that all three items are identical in every respect except for their unit costs. Of course, the selection of a different unit cost, in this case, also will influence the ending inventory for the two remaining items.

8. **LIFO and FIFO** have opposite effects on the inventory amount reported under assets on the balance sheet. The ending inventory is based upon either the oldest unit cost or the newest unit cost, depending upon which method is used. Under **FIFO**, the ending inventory is costed at the latest unit costs, and under **LIFO**, the ending inventory is costed at the oldest unit costs. Therefore, when prices are rising, the ending inventory reported on the balance sheet will be higher under **FIFO** than under **LIFO**. Conversely, when prices are falling the ending inventory on the balance sheet will be higher under **LIFO** than under **FIFO**.
9. **LIFO versus FIFO** will affect the income statement in two ways: (1) the amount of cost of goods sold and (2) income. When the prices are rising, **FIFO** will give a lower cost of goods sold amount and hence a higher income amount than will **LIFO**. In contrast, when prices are falling, **FIFO** will give a higher cost of goods sold amount and, as a result, a lower income amount.
10. When prices are rising, **LIFO** causes a lower taxable income than does **FIFO**. Therefore, when prices are rising, income tax is less under **LIFO** than **FIFO**. A lower tax bill saves cash (reduces cash outflow for income tax). The amount of cash saved is the difference between **LIFO** and **FIFO** inventory amounts multiplied by the income tax rate.
11. LCM is applied when market (defined as current replacement cost) is lower than the cost of units on hand. The ending inventory is valued at market (lower), which (a) reduces net income and (b) reduces the inventory amount reported on the balance sheet. The effect of applying LCM is to include the **holding loss** on the income statement (as a part of CGS) in the period in which the replacement cost drops rather than in the period of actual sale.
12. When a **perpetual inventory system** is used, the unit cost must be known for each item sold at the date of each sale because at that time two things happen: (a) the units sold and their costs are removed from the perpetual inventory record and the new inventory balance is determined; (b) the cost of goods sold is determined from the perpetual inventory record and an entry in the accounts is made as a debit to Cost of goods sold and a credit to Inventory. In contrast, when a **periodic inventory system** is used the unit cost need not be known at the date of each sale. In fact, the periodic system is designed so that cost of goods sold for each sale is not known at the time of sale. At the end of the period, under the periodic inventory system, cost of goods sold is determined by adding the beginning inventory to the total goods purchased for the period and subtracting from that total the ending inventory amount. The ending inventory amount is determined by means of a physical inventory count of the goods remaining on hand and with the units valued on a unit cost basis in accordance with the cost principle (by applying an appropriate inventory costing method).
13. The periodic inventory model reflects the way in which that system operates. Under this system the beginning inventory and purchases (during the period) are accumulated, the sum of which is goods available for sale. It is necessary, therefore, that the ending inventory be determined by actual inventory count at the end of the period. Cost of goods sold is computed by subtracting the ending inventory from goods available for sale. The model: $BI + P - EI = CGS$ reflects the fact that, under the periodic inventory model, cost of goods sold is computed as a residual amount.
- In contrast, the perpetual inventory system involves maintaining a continuous (running or perpetual) inventory record during the accounting period. The beginning inventory, each purchase during the period, and each sale during the period, are entered in the perpetual inventory record in units and dollars of cost. The difference between the goods available less cost of goods sold (issues or sales) is the ending inventory. Thus, the perpetual inventory model: $BI + P - CGS = EI$, reflects the fact that ending inventory is computed as a residual amount in the inventory record.

Authors' Recommended Solution Time
(Time in minutes)

Mini-exercises		Exercises		Problems		Alternate Problems		Cases and Projects	
No.	Time	No.	Time	No.	Time	No.	Time	No.	Time
1	5	1	20	1	30	1	35	1	20
2	5	2	15	2	35	2	30	2	15
3	5	3	15	3	30	3	40	3	20
4	10	4	15	4	40	4	40	4	30
5	10	5	20	5	40	5	30	5	15
6	5	6	25	6	30			6	30
7	5	7	30	7	45			7	40
8	5	8	30	8	40			8	25
9	10	9	25	9	40			9	20
		10	15	10	50			10	30
		11	15	11	20			11	*
		12	20	12	30			12	*
		13	15					13	*
		14	15					14	*
		15	20					15	*
		16	20					16	*
		17	30					17	*

* Due to the nature of these cases and projects, it is very difficult to estimate the amount of time students will need to complete the assignment. As with any open-ended project, it is possible for students to devote a large amount of time to these assignments. While students often benefit from the extra effort, we find that some become frustrated by the perceived difficulty of the task. You can reduce student frustration and anxiety by making your expectations clear. For example, when our goal is to sharpen research skills, we devote class time discussing research strategies. When we want the students to focus on a real accounting issue, we offer suggestions about possible companies or industries.

EXERCISES

M7-1.

Type of Inventory	Type of Business	
	Merchandising	Manufacturing
Merchandise	X	—
Finished goods	—	X
Work in process	—	X
Raw materials	—	X

M7-2.

To record the purchase of 80 new shirts in accordance with the cost principle (perpetual inventory system):

Inventory (A).....	2,880	
Cash (A).....		2,880

Cost: $\$2,600 + \$165 + \$115 = \$2,880$.

The \$260 interest expense is not a proper cost of the merchandise; it is recorded as prepaid interest expense and later as interest expense.

M7-3.

	(a) Part of inventory	(b) Expense as incurred
1. Wages of factory workers	X	
2. Sales salaries		X
3. Costs of raw materials purchased	X	
4. Heat, light, and power for the factory building	X	
5. Heat, light, and power for the headquarters office building		X

M7-4.

Computation: Simply rearrange the basic inventory model (BI + P - EI = COGS):

Cost of goods sold	\$10,969 million
+ Ending inventory	3,062 million
- Beginning inventory	(2,969) million
Purchases	<u>\$11,062 million</u>

M7-5.

Understatement of the 20A ending inventory by \$100,000 caused 20A pretax income to be understated and 20B pretax income to be overstated by the same amount. Overstatement of the 20A ending inventory would have the opposite effect; that is, 20A pretax income would be overstated by \$100,000 and 20B pretax income understated by \$100,000. Total pretax income for the two years combined would be correct.

M7-6.

(a) Rising costs	
Highest net income	FIFO
Highest inventory	FIFO
(b) Declining costs	
Highest net income	LIFO
Highest inventory	LIFO

M7-7.

(a) Rising costs	LIFO
(b) Declining costs	FIFO

M7-8.

- + (a) Parts inventory delivered daily by suppliers instead of weekly.
- + (b) Shorten production process from 10 days to 8 days.
- NE (c) Extend payments for inventory purchases from 15 days to 30 days.

Pretax income.....	\$ 800	\$ (500)	\$ -0-
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M7-9.

	Quantity	Cost per item	Replacement cost per item	Lower of cost or market	Total reported
Item A	50	\$ 75	\$100	\$75	50 x \$75 = \$3,750
Item B	25	60	50	50	25 x \$50 = \$1,250
Total					<u>\$5,000</u>

EXERCISES

E7-1.

(Underscore for missing amounts only.)

Case	Sales Revenue	Beg. Inventory	Purchases	Total Available	Ending Inventory	Cost of Goods Sold	Gross profit	Expenses	Pretax Income or (Loss)
A	\$ 650	\$100	\$700	<u>\$800</u>	\$500	<u>\$300</u>	<u>\$350</u>	200	<u>\$150</u>
B	900	200	800	<u>1,000</u>	250	<u>750</u>	<u>150</u>	150	0
C	<u>600</u>	150	<u>350</u>	<u>500</u>	300	200	400	100	<u>300</u>
D	800	<u>100</u>	600	<u>700</u>	250	<u>450</u>	<u>350</u>	250	100
E	1,000	200	900	1,100	600	500	500	550	(50)

E7-2.

(Underscore for missing amounts only.)

	Case A	Case B	Case C
Sales revenue	\$ 8,000	\$6,000	<u>\$ 6,195</u>
Sales returns and allowances	150	<u>500</u>	275
Net sales revenue	<u>7,850</u>	<u>5,500</u>	5,920
Beginning inventory	11,000	6,500	4,000
Purchases	5,000	<u>8,770</u>	9,420
Transportation-in	<u>100</u>	120	170
Purchase returns	350	600	220
Goods available for sale	<u>15,750</u>	14,790	<u>13,370</u>
Ending inventory	10,000	10,740	<u>7,970</u>
Cost of goods sold	<u>5,750</u>	<u>4,050</u>	5,400
Gross profit	<u>2,100</u>	1,450	<u>520</u>
Expenses	1,300	<u>1,950</u>	520

E7-3.

Computations:

Cost of Goods Sold	
Revenue	\$1,586,596,000
- Gross profit	<u>540,360,000</u>
Cost of goods sold	<u>\$1,046,236,000</u>

Purchases Simply rearrange the basic inventory model (BI + P - EI = CGS):

Cost of goods sold	\$1,046,236,000
+ Ending inventory	243,482,000
- Beginning inventory	<u>(193,268,000)</u>
Purchases	<u>\$1,096,450,000</u>

E7-4.

- Net Income for 20A will be Overstated. An understatement of purchases produces an understatement of cost of goods sold which produces an overstatement of the current period's income.

$$\underbrace{BI + P - EI}_{\text{Understate}} = \underbrace{CGS}_{\text{Understate}}$$

- Net Income for 20B will be Understated. An overstatement of purchases produces an overstatement of cost of goods sold which produces an understatement of the current period's income.

$$\underbrace{BI + P - EI}_{\text{Overstate}} = \underbrace{CGS}_{\text{Overstate}}$$

- Retained Earnings for December 31, 20A, will be Overstated because of the overstatement of Net Income for 20A.

- Retained Earnings for December 31, 20B, will be Correct because the overstatement of Net Income for 20A and understatement of Net Income for 20B will offset one another.

E7-5.

Req. 1

When the ending inventory is overstated, cost of goods sold is understated which in turn results in an overstatement of net income. Gibson's income from operations should be reduced by \$8,806,000 and tax expense should be reduced by \$3,460,758 (i.e., \$8,806,000 x 0.393). Therefore, net income should be:

As reported:.....	\$25,852,000
Increase in cost of good sold	(8,806,000)
Reduction in tax expense.....	3,460,758
Corrected income.....	<u>\$20,506,758</u>

Req. 2

The incorrect accounts can be summarized as follows:

Account	Year of Error	Subsequent Year
Beginning inventory	correct	overstated
Cost of goods sold	understated	overstated
Ending inventory	overstated	correct
Net income	overstated	understated
Retained earnings	overstated	correct
Taxes payable*	overstated	understated

*The income tax payable for each year is incorrect by the same amount, therefore the total income tax paid was correct.

E7-6.

Req. 1

The \$400 understatement of ending inventory produced pretax income amounts that were incorrect by the amount of \$400 for each quarter. However, the effect on pretax income for each quarter was opposite (i.e., the first quarter pretax income was understated by \$400, and in the second quarter it was overstated by \$400). This self-correcting produces a correct combined income for the two quarters.

Req. 2

The error caused the pretax income for each quarter to be incorrect [see (1) above]; therefore, it produced incorrect EPS amounts for each quarter.

Req. 3

	First Quarter	Second Quarter
Sales revenue.....	\$15,000	\$18,000
Cost of goods sold:		
Beginning inventory.....	\$3,000	\$ 4,400
Purchases.....	7,000	12,000
Goods available for sale.....	10,000	16,400
Ending inventory.....	<u>4,400</u>	<u>9,000</u>
Cost of goods sold.....	5,600	7,400
Gross profit.....	9,400	10,600
Expenses.....	5,000	6,000
Pretax income.....	<u>\$4,400</u>	<u>\$4,600</u>

Req. 4

	1st Quarter			2nd Quarter		
	Incorrect	Correct	Error	Incorrect	Correct	Error
Beginning inventory	\$3,000	\$3,000	No error	\$4,000	\$4,400	\$400 under
Ending inventory	4,000	4,400	\$400 under	9,000	9,000	No error
Cost of goods sold	6,000	5,600	400 over	7,000	7,400	400 under
Gross profit	9,000	9,400	400 under	11,000	10,600	400 over
Pretax income	4,000	4,400	400 under	5,000	4,600	400 over

E7-7.

Req. 1

**LUNAR COMPANY
Income Statement
For the Year Ended December 31, 20B**

	Case A FIFO	Case B LIFO
Sales revenue ¹	\$440,000	\$440,000
Cost of goods sold:		
Beginning inventory.....	36,000	36,000
Purchases.....	194,000	194,000
Goods available for sale ²	230,000	230,000
Ending inventory ³	<u>114,000</u>	<u>96,000</u>
Cost of goods sold.....	116,000	134,000
Gross profit.....	324,000	306,000
Expenses.....	195,000	195,000
Pretax income.....	<u>\$129,000</u>	<u>\$111,000</u>

Computations:

- Sales: (5,000 units @ \$40) + (6,000 units @ \$40) = \$440,000
- Goods available for sale (for both cases):

	Units	Unit Cost	Total Cost
Beginning inventory	3,000	\$12	\$ 36,000
Purchase, April 11, 20B	9,000	10	90,000
Purchase, June 1, 20B	8,000	13	104,000
Goods available for sale	<u>20,000</u>		<u>\$230,000</u>

- Ending inventory (20,000 available - 11,000 units sold = 9,000 units):

Case A **FIFO:**
(8,000 units @ \$13 = \$104,000) +
(1,000 units @ \$10 = \$10,000) = \$114,000.

Case B **LIFO:**
(3,000 units @ \$12 = \$36,000)+
(6,000 units @ \$10 = \$60,000) = \$96,000.

E7-7. (continued)

Req. 2

Comparison of Amounts
Case A Case B
FIFO LIFO

Pretax Income	\$129,000	\$111,000
Difference		\$18,000
Ending Inventory	114,000	96,000
Difference		18,000

The above tabulation demonstrates that the pretax income difference between the two cases is exactly the same as the inventory difference. Differences in inventory have a dollar-for-dollar effect on pretax income.

Req. 3

LIFO may be preferred for income tax purposes because it reports less taxable income (when prices are rising) and hence (a) reduces income tax and (b) as a result reduces cash outflows for the period.

E7-8.

Req. 1

Income statement	Inventory Costing Method			
	Units	FIFO	LIFO	Weighted Average
Sales revenue.....	8,200	\$574,000	\$574,000	\$574,000
Cost of goods sold:				
Beginning inventory.....	2,000	70,000	70,000	70,000
Purchases.....	8,000	304,000	304,000	304,000
Goods available for sale.....	10,000	374,000	374,000	374,000
Ending inventory*.....	1,800	68,400	63,000	67,320
Cost of goods sold.....	8,200	305,600	311,000	306,680
Gross profit.....		268,400	263,000	267,320
Expenses.....		142,000	142,000	142,000
Pretax income.....		126,400	121,000	125,320
Income tax expense (30%).....		37,920	36,300	37,596
Net income.....		\$ 88,480	\$ 84,700	\$ 87,724

*Inventory computations:

Average:

FIFO: 1,800 units @ \$38 = \$68,400.

LIFO: 1,800 units @ \$35 = \$63,000.

Average: [(2,000 units @ \$35) + (8,000 units @ \$38)] ÷ 10,000 units =

\$374,000 ÷ 10,000 units = \$37.40 per unit.

\$37.40 × 1,800 units = \$67,320.

Req. 2

FIFO produces a more favorable (higher) net income because when prices are rising it gives a lower cost of goods sold amount. FIFO allocates the old (lower) unit costs to cost of goods sold.

LIFO produces a more favorable cash flow than FIFO because, when prices are rising, it produces a higher cost of goods sold amount and lower taxable income and, therefore, lower income tax expense for the period. Cash outflow is less under LIFO by the amount of income tax reduction. LIFO causes these comparative effects because it allocates the new (higher) unit costs to cost of goods sold.

Req. 3

When prices are falling, the opposite effect occurs—LIFO produces higher net income and less favorable cash flow than does FIFO.

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E7-9. (continued)

Req. 3

Ranking in order of favorable cash flow: The higher rankings are given the methods that produce the **lower** income tax expense because the lower the income tax expense the **higher** the cash savings.

- (1) LIFO—produces the lowest pretax income, hence the lowest amount of cash to be paid for income tax.
- (2) Weighted average—produces next lower pretax income.
- (3) FIFO—produces highest pretax income and as a result the highest income tax. This result causes the lowest cash saving on income tax.

The above comparative effects occurred because prices were rising. If prices were falling the three methods would have produced inverse differences.

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E7-9.

Req. 1

	FIFO	LIFO	Weighted Average
Cost of goods sold:			
Beginning inventory (330 units @ \$34).....	\$11,220	\$11,220	\$11,220
Purchases (475 units @ \$36).....	17,100	17,100	17,100
Goods available for sale.....	28,320	28,320	28,320
Ending inventory (510 units)*.....	18,290	17,700	17,942
Cost of goods sold (295 units).....	<u>\$10,030</u>	<u>\$10,620</u>	<u>\$10,378</u>

*Computation of ending inventory:

FIFO: (475 units × \$36) + (35 units × \$34) = \$18,290

LIFO: (180 units × \$36) + (330 units × \$34) = \$17,700

Weighted Average: **Units Cost**

330 \$11,220

475 17,100

805 \$28,320

= weighted-average unit cost of \$35.18.

Req. 2

	FIFO	LIFO	Weighted Average
Sales revenue \$50 × (330 + 475 – 510 = 295).....	\$14,750	\$14,750	\$14,750
Cost of goods sold:			
Beginning inventory.....	11,220	11,220	11,220
Purchases.....	17,100	17,100	17,100
Goods available for sale.....	28,320	28,320	28,320
Ending inventory (per above).....	18,290	17,700	17,942
Cost of goods sold.....	<u>10,030</u>	<u>10,620</u>	<u>10,378</u>
Gross profit.....	4,720	4,130	4,372
Expenses.....	1,600	1,600	1,600
Pretax income.....	<u>\$ 3,120</u>	<u>\$ 2,530</u>	<u>\$ 2,772</u>

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E7-10.

1. The reported ending inventory for Ford was \$6,816.8 million. If FIFO were used exclusively, the ending inventory would have been \$1,235 million higher than reported, or \$8,051.8 million.
2. The restated cost of goods sold amount must reflect the restatement of both beginning and ending inventory:

Beginning inventory.....	\$1,246 million
Less: Ending inventory.....	<u>1,235 million</u>
Impact on COGS.....	<u>\$ 11 million</u>

If FIFO were used exclusively, cost of goods sold would have been \$74,315 + \$11 = \$74,326 million.

E7-11.

Req. 1

$$\text{Inventory turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}} = \frac{\$9,605}{(\$251 + \$233)/2} = 39.7$$

$$\text{Average days to sell inventory} = 365 / \text{inventory turnover} = 365 / 39.7 = 9.2 \text{ days}$$

Req. 2

The inventory turnover ratio reflects how many times average inventory was produced and sold during the period. Thus, Dell produced and sold its average inventory nearly 40 times during the year.

The average days to sell inventory indicates the average time it takes the company to produce and deliver inventory to customers. Thus, Dell takes an average of about 9 days to produce and deliver its computer inventory to its customers.

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E7-12.

CASE A – FIFO:

Goods available for sale for FIFO:	
Units (19 + 25 + 50)	94
Amount (\$266 + 375 + 800).....	<u>\$1,441</u>
Ending inventory: 94 units – 68 units = 26.	
Ending inventory (26 units x \$16).....	<u>\$ 416</u>
Cost of goods sold (\$1,441 – \$416).....	<u>\$1,025</u>

Inventory turnover = $\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}} = \frac{\$1,025}{(\$266 + \$416)/2} = 3.01$

CASE B – LIFO:

Goods available for sale for LIFO:	
Units (19 + 25 + 50)	94
Amount (\$190 + 375 + 800).....	<u>\$1,365</u>
Ending inventory: 94 units – 68 units = 26.	
Ending inventory (19 units x \$10 + 7 units x \$15).....	<u>\$ 295</u>
Cost of goods sold (\$1,365 – \$295).....	<u>\$1,070</u>

Inventory turnover = $\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}} = \frac{\$1,070}{(\$190 + \$295)/2} = 4.41$

The FIFO inventory turnover ratio is normally thought to be a more accurate indicator when prices are changing because LIFO can include very old inventory prices in ending inventory balances.

E7-13.

	20B	20A	Change
Inventory	22,813,850	– 20,838,171	= 1,975,679
A/P	9,462,883	– 9,015,376	= 447,507

Increases in inventory cause cash flow from operations to decrease by \$1,975,679. This amount is subtracted in the computation of cash flow from operations. First Team Sports was able to offset some of this by increasing its A/P by \$447,507, which increases cash flow from operations. This amount is added in the computation of cash flow from operations. Effectively, the Company is letting its suppliers finance a portion of its growing inventories.

E7-14.

Item	Quantity	Total Cost	Total Market	LCM Valuation
A	50	x \$15 = \$ 750	x \$13 = \$650	\$650
B	75	x 40 = 3,000	x 40 = 3,000	3,000
C	10	x 50 = 500	x 52 = 520	500
D	30	x 30 = 900	x 30 = 900	900
E	400	x 8 = 3,200	x 6 = 2,400	2,400
Total		<u>\$8,350</u>	<u>\$7,470</u>	<u>\$7,450</u>

Inventory valuation that should be used (LCM) \$7,450

E7-15.

CASE A: Perpetual inventory system:

January 14	Accounts receivable (A).....	1,125	
	Sales (R) (25 units at \$45).....		1,125
	Cost of Goods Sold (E).....	625	
	Inventory (A) (25 units at \$25).....		625
April 9	Inventory (A) (15 units at \$25).....	375	
	Accounts payable (L).....		375
September 2	Accounts receivable (A).....	2,500	
	Sales (R) (50 units at \$50).....		2,500
	Cost of Goods Sold (E).....	1,250	
	Inventory (A) (50 units at \$25).....		1,250
End of year	No year-end adjusting entry needed.		

CASE B: Periodic inventory system:

January 14	Accounts receivable (A).....	1,125	
	Sales (R) (25 units at \$45).....		1,125
April 9	Purchases (T) (15 units at \$25).....	375	
	Accounts payable (L).....		375
September 2	Accounts receivable (A).....	2,500	
	Sales (R) (50 units at \$50).....		2,500
End of year	Cost of goods sold (E)(for goods available for sale).....	2,875	
	Purchases (T)	375	
	Inventory (A) (Beginning: 100 units at \$25).....		2,500
	Inventory (A) (Ending: 40 units at \$25).....	1,000	
	Cost of goods sold (E).....		1,000
	Calculation of cost of goods sold:		
	Beginning inventory (100 units at \$25)	\$2,500	
	Add purchases	<u>375</u>	
	Goods available for sale	\$2,875	
	Ending inventory (physical count—40 units at \$25)	<u>1,000</u>	
	Cost of goods sold	<u>\$1,875</u>	

E7-16. (Supplement A)

Req. 1
This actual footnote from Standard Oil illustrates the impact of "dipping into a LIFO layer." Under LIFO, the cost of recently purchased items is assigned to cost of goods sold. When prices are rising, cost of goods sold, under LIFO, will include unit costs that are much higher than the unit costs assigned to ending inventory. This process will continue year after year so that the unit costs assigned to the ending inventory often will be significantly less than unit costs assigned to cost of goods sold. For example, a barrel of crude oil cost \$3 to \$4 in the early 1970s but by the early 1980s the cost increased to \$30 to \$40 a barrel. When a business permits inventory quantity to decline, old (and often very low) costs are allocated to cost of goods sold and are matched with revenues that usually are based on the current (higher) costs. As a result, a decline in LIFO inventory quantity often will produce a dramatic increase in net income for the company.

Req. 2
When FIFO is used, a decline in inventory quantity will not result in the dramatic increase in net income that was discussed in requirement (1) because FIFO inventory costs are represented by the most recent purchases.

E7-17. (Supplement B)

Req. 1	Accounts receivable (A)	800	
	Sales (R).....		800
	Cost of Goods Sold (E).....	500	
	Inventory (A).....		500
Req. 2	Cash (A) (\$800 x 0.98).....	784	
	Sales discounts (E or XR) (\$800 x 0.02)	16	
	Accounts receivable (A).....		800
Req. 3	Cash (A).....	800	
	Accounts receivable (A).....		800
Req. 4	Inventory (A).....	8,000	
	Accounts payable (L).....		8,000
Req. 5	Accounts payable (L).....	8,000	
	Inventory (A) (\$8,000 x 0.01)	80	
	Cash (A) (\$8,000 x 0.99).....		7,920
Req. 6	Accounts payable (L).....	8,000	
	Cash (A)		8,000

PROBLEMS

P7-1.

Item	Amount	Explanation
Ending inventory (physical count on December 31, 20B)	\$70,000	Per physical inventory.
a. Goods out on trial to customer	+ 500	Goods held by a customer on trial are still owned by the vendor; no sale or transfer of ownership has occurred.
b. Goods in transit from supplier		Goods shipped by a supplier, F.O.B. destination, are owned by the supplier until delivery at destination.
c. Goods in transit to customer		Goods shipped to customers, F.O.B. shipping point, are owned by the customer because ownership passed when they were delivered to the transportation company. The inventory correctly excluded these items.
d. Goods held for customer pickup	- 1,200	The goods sold, but held for customer pickup are owned by the customer. Ownership has passed.
e. Goods purchased and in transit	+ 2,200	Goods purchased and in transit, F.O.B. shipping point, are owned by the purchaser.
f. Goods sold and in transit	+ 950	Goods sold and in transit, F.O.B. destination, are owned by the seller until they reach destination.
g. Goods held on consignment	- 5,000	Goods held on consignment are owned by the consignor (the manufacturer), not by the consignee.
Correct inventory, December 31, 20B	<u>\$67,450</u>	

P7-2.

Req. 1

CLEMENT COMPANY
Income Statement Corrected

	20A	20B	20C	20D
Sales revenue	\$50,000	\$51,000	\$62,000	\$58,000
Cost of goods sold	32,500	32,000*	46,000*	37,000
Gross profit	17,500	19,000	16,000	21,000
Expenses	10,000	12,000	14,000	12,000
Pretax income	<u>\$ 7,500</u>	<u>\$ 7,000</u>	<u>\$ 2,000</u>	<u>\$ 9,000</u>

* Increase in the ending inventory in 20B by \$3,000 causes a decrease in cost of goods sold by the same amount. Therefore, cost of goods sold for 20B is \$35,000 - \$3,000 = \$32,000. Because the 20B ending inventory is carried over as the 20C beginning inventory, cost of goods sold for 20C was understated by \$3,000. Thus, the correct cost of goods sold amount for 20C is \$43,000 + \$3,000 = \$46,000.

Req. 2

	20A	20B	20C	20D
Gross profit ratio (gross profit + sales):				
Before correction:				
\$17,500 + \$50,000 =	.35			
\$16,000 + \$51,000 =		.31		
\$19,000 + \$62,000 =			.31	
\$21,000 + \$58,000 =				.36

After correction:				
No change	.35			
\$19,000 + \$51,000 =		.37		
\$16,000 + \$62,000 =			.26	
No change				.36

The corrected amounts appear to be much more realistic in view of the decline in net income for year 20C.

P7-2. (continued)

Req. 3

The error would have the following effect on income tax expense:

	20B	20C
Before correction:		
20B: \$4,000 x 30% =	\$1,200	
20C: \$5,000 x 30% =		\$1,500
After correction:		
20B: \$7,000 x 30% =	2,100	
20C: \$2,000 x 30% =		\$ 600
Difference	<u>\$ (900)</u>	<u>\$ 900</u>

The income tax expense would have been understated by \$900 in 20B and overstated by \$900 in 20C.

P7-3.

a) Goods available for sale for all methods:

	Units	Unit Cost	Total Cost
January 1, 20E—Beginning inventory	400	\$30	\$12,000
February 20, 20E—Purchase	600	32	19,200
June 30, 20E—Purchase	500	36	18,000
Goods available for sale	<u>1,500</u>		<u>\$49,200</u>

Ending inventory: 1,500 units - (700 + 100 - 20) = 720 units

b) and c)

1. Weighted-average cost:			
Average unit cost	\$49,200 + 1,500 = \$32.80.		
Ending inventory	(720 units x \$32.80)		<u>\$23,616</u>
Cost of goods sold	(\$49,200 - \$23,616)		<u>\$25,584</u>
2. First-in, first-out:			
Ending inventory	(500 units x \$36) + (220 units x \$32)		<u>\$25,040</u>
Cost of goods sold	(\$49,200 - \$25,040)		<u>\$24,160</u>
3. Last-in, first-out:			
Ending inventory	(400 units x \$30) + (320 units x \$32)		<u>\$22,240</u>
Cost of goods sold	(\$49,200 - \$22,240)		<u>\$26,960</u>
4. Specific identification:			
Ending inventory	(260 units x \$30) + (40 units x \$32) + (420 units x \$36)		<u>\$24,200</u>
Cost of goods sold	(\$49,200 - \$24,200)		<u>\$25,000</u>

P7-4.

Req. 1

ATLANTA COMPANY
Partial Income Statement
For the Month Ended January 31, 20B

	(a) Weighted Average	(b) FIFO	(c) LIFO	(d) Specific Identification
Sales revenue*	\$12,600	\$12,600	\$12,600	\$12,600
Cost of goods sold**	<u>4,088</u>	<u>3,700</u>	<u>4,500</u>	<u>3,800</u>
Gross profit	<u>\$ 8,512</u>	<u>\$ 8,900</u>	<u>\$ 8,100</u>	<u>\$ 8,800</u>

Computations:
 **700 units @ \$18 = \$12,600.
 **Cost of goods sold:

	Units	Weighted Average	FIFO	LIFO	Specific Identification
Beginning inventory	500	\$2,500	\$2,500	\$2,500	\$2,500
Purchases (net)***	<u>750</u>	<u>4,800</u>	<u>4,800</u>	<u>4,800</u>	<u>4,800</u>
Goods available for sale	1,250	7,300	7,300	7,300	7,300
Ending inventory****	<u>550</u>	<u>3,212</u>	<u>3,600</u>	<u>2,800</u>	<u>3,500</u>
Cost of goods sold	<u>700</u>	<u>\$4,088</u>	<u>\$3,700</u>	<u>\$4,500</u>	<u>\$3,800</u>

***Purchases:
 January 12 600 units @ \$6 = \$3,600
 January 26 160 units @ \$8 = 1,280
 January 28 (10) units @ \$8 = (80)
 Totals 750 \$4,800

****Ending inventory:
 a. Weighted-average cost: Units Amount
 Beginning inventory 500 \$2,500
 Purchases (per above) 750 4,800
 1,250 \$7,300

Average cost:
 \$7,300 ÷ 1,250 units = \$5.84
 Ending inventory:
 550 units x \$5.84 = \$3,212

P7-4. (continued)

Req. 1 (continued)

b. FIFO:	150 units @ \$8 = \$1,200
	400 units @ \$6 = 2,400
	<u>550</u> <u>\$3,600</u>
c. LIFO:	500 units @ \$5 = \$2,500
	50 units @ \$6 = 300
	<u>550</u> <u>\$2,800</u>
d. Specific identification:	
	100 units @ \$5 = \$ 500
	300 units @ \$6 = 1,800
	150 units @ \$8 = 1,200
	<u>550</u> <u>\$3,500</u>

Req. 2

FIFO reports a higher pretax income than LIFO because (1) prices are rising and (2) FIFO allocates the old (lower) unit costs to cost of goods sold. For the same reason, FIFO will report a higher EPS amount because it produces a higher pretax income than LIFO.

Req. 3

Because LIFO reports a lower pretax income than FIFO for the reasons given in Requirement (2), the former will derive less income tax by $(\$8,900 - \$8,100) \times 30\% = \$240$.

Req. 4

LIFO will provide a more favorable cash flow than FIFO of \$240 because less cash will be paid for income tax than would be paid under FIFO (for the reasons given in Requirements 2 and 3).

P7-5.

Req. 1

Sales revenue	\$1,125,000
Cost of goods sold* (40 @ \$10,000) + (5 @ \$12,000)	<u>460,000</u>
Gross profit	665,000
Expenses	<u>300,000</u>
Pretax income	<u>\$ 365,000</u>
*Ending inventory (10 @ \$12,000)	<u>\$ 120,000</u>

Req. 2

Sales revenue	\$1,125,000
Cost of goods sold** (20 @ \$8,000)+(25 @ \$10,000)	<u>410,000</u>
Gross profit	715,000
Expenses	<u>300,000</u>
Pretax income	<u>\$ 415,000</u>
**Ending inventory (15 @ \$10,000)+(15 @ \$12,000)	<u>\$ 330,000</u>

Req. 3

Pretax income increased by \$50,000 because of the decision to purchase the additional units at the end of the year. This decision provided lower cost units to allocate to cost of goods sold, which increased pretax income.

There is evidence of deliberate income manipulation. Although no information is provided as to expected future sales, nor the time to order and receive units, the timing of the purchase of the additional units is suspect because the cost of the equipment will be decreased again during the first quarter of next year.

(Instructional Note—This problem illustrates the way that income can be manipulated under LIFO by buying, or not buying, at year-end. This opportunity to manipulate income is not available under weighted average or FIFO.)

P7-6.

Req. 1

Income statement restated on LIFO basis:	(Millions)
Sales revenue	\$850
Cost of goods sold(\$400 + \$120 – \$75)	<u>445</u>
Gross profit	405
Expenses	<u>310</u>
Pretax income	<u>\$ 95</u>

Req. 2

The decrease in pretax income was \$140 – \$95 = \$45 (million). This decrease was produced by LIFO (compared with FIFO) because (1) prices were rising significantly and (2) LIFO allocates the new (higher) unit costs to cost of goods sold, while FIFO allocates the old (lower) unit costs to cost of goods sold.

Req. 3

The educated shareholder would answer "Desirable because it decreases pretax income which saves income tax. Because it decreases income tax expense, it enhances the cash position (i.e., cash savings)." However, other stockholders probably would not agree among themselves on this decision and would give various reasons such as the following:

- (1) Undesirable because it is a deliberate attempt to manipulate income.
- (2) Desirable because there will be more cash for dividends.
- (3) Desirable because LIFO better matches current costs with current revenues.
- (4) Undesirable because costing should be consistent with the physical flow of goods (FIFO).
- (5) Undesirable because FIFO is more logical and it is not subject to manipulation by year-end purchases (or failure to purchase).
- (6) Undesirable because by reducing reported income (and hence retained earnings) fewer dividends may be declared.
- (7) Undesirable because FIFO better measures the ending inventory valuation reported on the balance sheet.
- (8) Undesirable because FIFO was acceptable and nothing fundamental has changed.

P7-7.

Req. 1

	Prices Rising		Prices Falling	
	FIFO	LIFO	FIFO	LIFO
Sales revenue (500 units)	\$12,500	\$12,500	\$12,500	\$12,500
Cost of goods sold:				
Beginning inventory (300 units)	3,600	3,600	3,900	3,900
Purchases (400 units)	5,200	5,200	4,800	4,800
Goods available for sale	8,800	8,800	8,700	8,700
Ending inventory (200 units)*	2,800 (a)	2,400 (b)	2,400 (c)	2,600 (d)
Cost of goods sold (500 units)	6,200	6,400	6,300	6,100
Gross profit	6,300	6,100	6,200	6,400
Expenses	4,000	4,000	4,000	4,000
Pretax income	2,300	2,100	2,200	2,400
Income tax expense (30%)	690	630	660	720
Net income	\$1,610	\$1,470	\$1,540	\$1,680

*Inventory computations:

- (a) FIFO: 200 units @ \$13.00 = \$2,600
- (b) LIFO: 200 units @ \$12.00 = 2,400
- (c) FIFO: 200 units @ \$12.00 = 2,400
- (d) LIFO: 200 units @ \$13.00 = 2,600

Req. 2

The above tabulation demonstrates that when prices are rising, FIFO gives a higher net income than LIFO. When prices are falling, the opposite effect results. The difference in pretax income (as between FIFO and LIFO) is the same as the difference in cost of goods sold but in the opposite direction. The difference in net income (i.e., after tax) is equal to the difference in cost of goods sold multiplied by one minus the income tax rate.

Req. 3

When prices are rising, LIFO derives a more favorable cash position (than FIFO) equal to the difference in income tax. In contrast, when prices are falling, FIFO derives a more favorable cash position equal to the difference in income tax.

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P7-7. (continued)

Req. 4

Either method can be defended reasonably. If one focuses on current income and EPS, FIFO derives a more favorable result (higher than LIFO when prices are rising).

Alternatively, if one focuses on income tax expense and cash position, when prices are rising, LIFO derives more favorable results (lower taxes, better cash position).

However, these comparative results will reverse if prices fall.

FIFO provides a better balance sheet valuation (higher current asset value) but on the income statement does not match current expense (cost of goods sold) with current revenues. Alternatively, LIFO better matches expenses with revenues but produces a less relevant inventory valuation on the balance sheet.

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Solutions Manual

P7-8.

Req. 1

A change that increases beginning inventory will decrease net income while a change that increases ending inventory will increase net income.

Impact on GM net income (in millions)

Change in ending inventory	\$2,077.1
Change in beginning inventory	(1,784.5)
Increase in pretax income	292.6
Increase in taxes (30%)	(87.8)
Increase in net income	\$ 204.8

Use of FIFO would result in an increase of \$204.8 million in GM reported net income. The change would result in an increase in income taxes because the LIFO conformity rule precludes use of LIFO for tax purposes if a method other than LIFO were used for financial reporting.

Reported net income	\$320.5
Increase	204.8
FIFO net income	\$525.3

Req. 2

If FIFO had been used, the ending inventory would have been \$2,077.1 million higher. Instead LIFO was used and the \$2,077.1 million was allocated to cost of goods sold in earlier accounting periods (including the current year). Thus, the cumulative difference between LIFO pretax income and FIFO pretax income was \$2,077.1 million, or a difference of \$1,454 million after taxes (\$2,077.1 x .7). Therefore, retained earnings on a FIFO basis would have been \$16,794 million (i.e., \$15,340 + \$1,454).

Req. 3

The reduction in taxes (compared to FIFO) was \$87.8 million (calculated in Req. 1).

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P7-9.

Req. 1

	Projected change	No change from beginning of year
Inventory Turnover = $\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$	$\frac{\$7,015,069}{\$387,039^*} = 18.1$	$\frac{\$7,015,069}{\$463,808^{**}} = 15.1$

- * $(\$463,808 + \$310,270) \div 2$
- ** $(\$463,808 + \$463,808) \div 2$

Req. 2

Projected decrease in inventory = \$463,808 - \$310,270 = \$153,538

A \$153,538 increase in cash flow from operating activities, because a decrease in inventory would increase cash, all other items held constant.

Req. 3

An increase in the inventory turnover ratio indicates an increase in the number of times average inventory was produced and sold during the period. A higher ratio indicates that inventory moves more quickly through the production process to the ultimate customer. As a consequence, the company can maintain less inventory on hand, all other things being equal. This can benefit the company because less money is tied up in inventory and as a result, cash flow from operations will be higher. The excess cash can be invested earning interest income, or used to reduce borrowings, reducing interest expense.

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Solutions Manual

P7-10.

Req. 1

**SMART COMPANY
Income Statement (LCM basis)
For the Year Ended December 31, 20B**

Sales revenue		\$280,000
Cost of goods sold:		
Beginning inventory	\$ 30,000	
Purchases	<u>182,000</u>	
Goods available for sale	212,000	
Ending inventory	<u>35,000*</u>	
Cost of goods sold		<u>177,000</u>
Gross profit		103,000
Operating expense		<u>61,000</u>
Pretax income		42,000
Income tax expense (\$42,000 x 30%)		<u>12,600</u>
Net income		<u>\$ 29,400</u>

*Computation of ending inventory on LCM basis:

Item	Quantity	Original Cost	Replacement Cost (Market)	LCM Valuation
A	3,000	x \$3 = \$ 9,000	x \$4 = \$12,000	\$ 9,000
B	1,500	x 4 = 6,000	x 2 = 3,000	3,000
C	7,000	x 2 = 14,000	x 4 = 28,000	14,000
D	3,000	x 5 = 15,000	x 3 = 9,000	9,000
Total		<u>\$44,000</u>	<u>\$52,000</u>	

LCM inventory valuation \$35,000

Req. 2

Item Changed	FIFO Cost Basis	LCM Basis	Amount of Change (Decrease)
Ending inventory	\$ 44,000	\$ 35,000	(\$9,000)
Cost of goods sold	168,000	177,000	9,000
Gross profit	112,000	103,000	(9,000)
Pretax income	51,000	42,000	(9,000)
Income tax expense	15,300	12,600	(2,700)
Net income	35,700	29,400	(6,300)

P7-10. (continued)

Req. 2 (continued)

Analysis

Ending inventory, cost of goods sold, gross profit, and pretax income each changed by the change in the valuation of the ending inventory.

Income tax expense decreased because the increase in expense reduced pretax income.

Net income was reduced by \$9,000 (increased expense) less the income tax savings of \$2,700 = \$6,300.

Req. 3

The inventory costing methods (weighted average, FIFO, LIFO, and specific identification) apply the cost and matching principles. Cost of goods sold, under these principles, is the actual cost incurred for the merchandise sold during the period; this cost is matched with sales revenue of the period.

LCM is an exception to the cost principle. Conceptually, LCM is based on the view that when replacement is less than the cost incurred for the merchandise, any such goods on hand should be valued at the lower replacement (market) price. The effect is to include the holding loss (i.e., the drop from cost to market) in the cost of goods sold amount of the period in which the replacement cost dropped. LCM recognizes holding losses in this manner; however, it does not recognize holding gains.

Req. 4

LCM reduced pretax income and income tax expense. There was a cash saving of \$2,700 for 20B (assuming the LCM results are included on the income tax return). In subsequent periods pretax income will be greater by the \$9,000 and hence, income tax and cash outflow will be more. The only real gain to the company would be the time value of money between 20B and the subsequent periods when increased income taxes must be paid (of course, a change in tax rates would affect this analysis).

P7-11. (Supplement A)

1. Pretax operating profit (loss) for the current year had FIFO accounting been employed instead of LIFO.

Difference in beginning inventory* (LIFO to FIFO)	\$2,076
Less: Difference in ending inventory* (LIFO to FIFO)	<u>2,226</u>
Difference in cost of goods sold (LIFO to FIFO)	<u>\$ (150)</u>

Difference in Pretax Net Income = \$150

(*The differences are the beginning and ending LIFO Reserve.)

2. Since prices are rising, LIFO liquidations increase net income before taxes. The change in pretax operating profit during the current year is given in the footnote as \$23 million. As a consequence, net income before taxes would be \$23 million lower had there been no inventory quantity reduction.

P7-12. (Supplement B)

(a) Cash (A)	275,000	
Sales (R)		275,000
Cost of Goods Sold (E)	137,500	
Inventory (A)		137,500
(b) Sales returns and allowances (XR)	1,600	
Cash (A)		1,600
Inventory (A)	800	
Cost of Goods Sold (E)		800
(c) Inventory (A)	5,000	
Accounts payable (L)		5,000
(d) Inventory (A)	120,000	
Accounts payable (L)		120,000
(e) Store equipment (A)	2,200	
Cash (A)		2,200

P7-12. (Supplement B - continued)

(f) Office supplies inventory (Prepaid expense, A)	700	
Cash (A)		700
(g) Inventory (A)	400	
Cash (A)		400
(h) Accounts payable (L)	5,000	
Cash (A)		5,000
(i) Accounts payable (L)	120,000	
Cash (A) (120,000 x 0.97)		116,400
Inventory (A) (120,000 x 0.03)		3,600

ALTERNATE PROBLEMS

AP7-1.

Req. 1

	20A	20B	20C	20D
Sales revenue	\$2,000,000	\$2,400,000	\$2,500,000	\$3,000,000
Cost of goods sold	<u>1,400,000</u>	<u>1,650,000</u>	<u>1,760,000</u>	<u>2,100,000</u>
Gross profit	600,000	750,000	740,000	900,000
Expenses	<u>450,000</u>	<u>500,000</u>	<u>520,000</u>	<u>550,000</u>
Pretax income	150,000	250,000	220,000	350,000
Income tax expense (30%)	<u>45,000</u>	<u>75,000</u>	<u>66,000</u>	<u>105,000</u>
Net income	<u>\$ 105,000</u>	<u>\$ 175,000</u>	<u>\$ 154,000</u>	<u>\$ 245,000</u>

Req. 2

There was an *overstatement* of the ending inventory in 20B by \$20,000; this caused cost of goods sold for 20B to be understated and 20B net income overstated. Similarly, because this error was carried over automatically to 20C as the beginning inventory, cost of goods sold for 20C was overstated and 20C net income understated. The amounts for 20A and 20D were not affected. This is called a self-correcting or counterbalancing error. Cumulative net income for the four-year period was not affected.

Req. 3

The effect of the error on income tax expense was:

	20B	20C
Income tax expense reported	\$81,000	\$60,000
Correct income tax expense	<u>75,000</u>	<u>66,000</u>
Income tax expense overstatement (understatement)	<u>\$ 6,000</u>	<u>\$(6,000)</u>

AP7-3.

The computations for Chrysler are shown below:

Req. 1

Inventory The reported amount was \$2,890 million. The note indicates that this amount would have been \$160 million higher or \$3,050 million if FIFO had been used.

Req. 2

Costs of good sold This adjustment reflects the restatement of both beginning and ending inventory:

Cost of goods sold	\$27,200 million
Add: Beginning LIFO reserve	123 million
Less: Ending LIFO reserve	(160) million
Restated costs of goods sold	<u>\$27,163 million</u>

The restatement has a relatively small impact on cost of goods sold. Most analysts would conclude that the adjustment was not material.

Req. 3

When costs are rising, LIFO normally produces lower net income before taxes and lower current tax payments.

AP7-2.

a) Goods available for sale for all methods:

	Units	Unit Cost	Total Cost
January 1, 20C—Beginning inventory	1,800	\$2.50	\$ 4,500
January 30, 20C—Purchase	2,500	3.10	7,750
May 1, 20C—Purchase	<u>1,200</u>	4.00	<u>4,800</u>
Goods available for sale	<u>5,500</u>		<u>\$17,050</u>

Ending inventory: 5,500 units – (1,450 + 1,900 – 150) = 2,300 units

b) and c)

1. Weighted-average cost:			
Average unit cost	\$17,050 ÷ 5,500 = \$3.10		
Ending inventory	(2,300 units x \$3.10)		<u>\$7,130</u>
Cost of goods sold	(\$17,050 – \$7,130)		<u>\$9,920</u>
2. First-in, first-out:			
Ending inventory	(1,200 units x \$4.00) + (1,100 units x \$3.10)		<u>\$8,210</u>
Cost of goods sold	(\$17,050 – \$8,210)		<u>\$8,840</u>
3. Last-in, first-out:			
Ending inventory	(1,800 units x \$2.50) + (500 units x \$3.10)		<u>\$6,050</u>
Cost of goods sold	(\$17,050 – \$6,050)		<u>\$11,000</u>
4. Specific identification:			
Ending inventory	(0 units x \$2.50) + (1,630 units x \$3.10) + (670 units x \$4.00)		<u>\$7,733</u>
Cost of goods sold	(\$17,050 – \$7,733)		<u>\$9,317</u>

AP7-4.

Req.1

	Projected change	No change from beginning of year
Inventory = $\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$	$\frac{\$161,069}{\$35,539^*} = 4.53$	$\frac{\$161,069}{\$23,808^{**}} = 6.77$

* $(\$23,808 + \$47,270) \div 2$
** $(\$23,808 + \$23,808) \div 2$

Req.2

Projected increase in inventory = \$47,270 – \$23,808 = \$23,462

A \$23,462 decrease in cash flow from operating activities, because an increase in inventory would decrease cash, all other items held constant.

Req.3

A decrease in the inventory turnover ratio indicates a decrease in the number of times average inventory was produced and sold during the period. A lower ratio indicates that inventory moves more slowly through the production process to the ultimate customer. As a consequence, the company must maintain more inventory on hand, all other things being equal. This can damage the company because more money is tied up in inventory and as a result, cash flow from operations will be lower. The additional cash needed prevents other productive investments or leads to higher borrowings, increasing interest expense.

AP7-5. (Supplement B)

(a)	Cash (A)	228,000	
	Accounts receivable (A)	72,000	
	Sales (R)		300,000
	Cost of Goods Sold (E).....	150,000	
	Inventory (A).....		150,000
(b)	Sales returns and allowances (XR)	5,000	
	Cash (A).....		3,000
	Accounts receivable (A).....		2,000
	Inventory (A)	2,500	
	Cost of Goods Sold (E).....		2,500
(c)	Inventory (A)	4,000	
	Accounts payable (L).....		4,000
(d)	Inventory (A)	68,000	
	Accounts payable (L).....		68,000
(e)	Inventory (A).....	1,500	
	Cash (A).....		1,500
(f)	Cash (A).....	36,000	
	Accounts receivable (A).....		36,000
(g)	Accounts payable (L)	4,000	
	Cash (A).....		4,000
(h)	Accounts payable (L)	68,000	
	Cash (A).....		66,640
	Inventory (A).....		1,360
(i)	Office equipment (A)	1,000	
	Cash (A).....		1,000

CASES AND PROJECTS

FINANCIAL REPORTING AND ANALYSIS CASES

CP7-1.

- The company held \$49,688 thousand of merchandise inventory at the end of the current year. This is disclosed on the balance sheet.
- The company purchased \$366,499 thousand during the current year. The beginning and ending inventory balances are disclosed on the balance sheet and cost of goods sold is disclosed on the income statement. Purchases during the year can be computed by rearranging the basic inventory equation (BI + P - EI = COGS) or using a T-account:

Cost of goods sold	\$353,089 thousand
+ Ending inventory	49,688 thousand
- Beginning inventory	(36,278) thousand
Purchases	<u>\$366,499 thousand</u>

Inventory		
Beg. Balance	36,278	
Purchases	<u>366,499</u>	353,089 Cost of goods sold
End. Balance	49,688	

- The company uses average costing to determine the cost of its inventory. This is disclosed in Note 2 under "Merchandise Inventory."
- Merchandise inventory increased by \$13,410 thousand. This increase in inventory decreased net cash provided by operating activities for the current year. This is disclosed on the statement of cash flows.

CP7-2.

- The company uses FIFO to determine the cost of its inventory. This is disclosed in Note 1 under "Inventories."
- The company's inventory balance is composed primarily of finished goods, with a relatively small amount of work-in-progress inventory. The company is primarily a retailer, which accounts for the large balance of finished goods (essentially, merchandise inventory). However, part of its operations (Urban Wholesale) also designs and manufactures apparel, which would account for the small balance in work-in-progress inventory.
- Inventory turnover = $\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}} = \frac{129,625}{(21,881+17,128)/2} = 6.65$

CP7-3.

	Urban Outfitters	American Eagle Outfitters
Inventory Turnover = $\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$	$\frac{\$129,625}{\$19,504.5^*} = 6.65$	$\frac{\$353,089}{\$42,983^{**}} = 8.21$

* $(\$21,881 + \$17,128) / 2$
** $(\$49,688 + \$36,278) / 2$

American Eagle Outfitters has a higher inventory turnover ratio than Urban Outfitters. This higher ratio implies that American Eagle was more successful than Urban Outfitters in moving inventory quickly through the purchasing and sales processes to the ultimate customer. This difference may be due in part to Urban Outfitters' manufacturing operations; American Eagle operates purely as a merchandiser.

- The different methods would not be expected to cause a large difference in the cost of goods sold. Inventory for clothing retailers such as American Eagle Outfitters and Urban Outfitters would be recent purchases catering to seasonal needs. Since both companies value inventory at lower of cost or market, inventory at the end of each season will normally be written down to net realizable value. Consequently, the ending inventory, and thus the cost of goods sold, would be approximately the same under FIFO and average methods.

CP7-3. (continued)

	Industry Average	Urban Outfitters	American Eagle Outfitters
Inventory Turnover =	4.67	6.65	8.21

Both Urban Outfitters' and American Eagle Outfitters' inventory turnover ratios are above the industry average. Both of these companies are doing a better job of turning over their inventory than the average company in their industry.

CP7-4.

The article discusses several examples of inventory fraud. Fictitious or "phantom" inventories were part of the frauds at Comptronix (recorded false entries to increase its inventory and decrease its cost of sales), Larabee Wire Manufacturing Co. (double-counted shipments of inventory items between plants as inventories at both plants), and Phar-Mor Inc. (retained inventory sold in its inventory accounts). LA Gear has also been accused of recording phantom sneakers in its inventory. Memorable (anonymous) examples include a Texas company that added inventory to its stock after the auditor-supervised count was completed and another case in which a barrel full of floor sweepings was valued by management at thousands of dollars.

Overstating inventory values and under-providing for inventory obsolescence is another common area for fraud. Larabee Wire Manufacturing Co. also recorded inventory values at levels above their current market values. Digital Equipment Corp has been accused of overstating its inventory value by providing insufficient obsolescence reserves.

Such inventory overstatements can instantly benefit a company's bottom line by decreasing cost of sales, and thus increasing gross profit. The author suggests several steps that auditors should take to avoid such misstatements in the future. More experienced auditors should supervise the inventory counts, with the same auditors supervising counts in subsequent years. Auditors should increase their sample sizes for test counts and should include surprise counts (not informing management of which items or locations are to be tested). In general, auditors should maintain a skeptical perspective. They should avoid treating any suspicious items found as isolated incidents when those items may be indicative of pervasive misstatements.

CP7-5.

The following points can be discussed:

- (1) Turnover is sales revenue.
- (2) Operating costs include all operating expenses, not just cost of goods sold.
- (3) Trading profit is income from normal sales activities. It is not the same as gross profit or income before extraordinary items.
- (4) Interest is an expense item (because it is subtracted). The notes disclose that it is net of interest revenue.
- (5) Preference dividends are dividends on preferred stock and ordinary dividends are on common stock.
- (6) Profit attributable to ordinary shareholders is a classification that is not normally reported on statements for U.S. companies, but it is similar in concept to the numerator of EPS.
- (7) Transferred to reserves is income less dividends for the year.

The other accounts are self-explanatory.

CP7-6.

1. Production costs included in inventory become cost of goods sold expense on the income statement in the period the goods are sold.
2. Since some of the current year's production is still not sold, some of these production-related costs that were added to work-in-process inventory during the production process are still in work-in-process inventory or in finished goods. This increases total inventory. Since the items have not been sold, the amounts have not been included in cost of goods sold expense. Thus total expenses are lower which in turn increases net income.

CP7-7.

Req. 1

Caterpillar	1995	1994	1993
Inventories - LIFO	\$1,921	\$1,835	\$1,525
Plus: LIFO Reserve	2,103	2,035	1,818
Inventories - FIFO	<u>\$4,024</u>	<u>\$3,870</u>	<u>\$3,343</u>
Cost of goods sold: LIFO	\$12,000	\$10,834	
+ Beginning LIFO Reserve	2,035	1,818	
- Ending LIFO Reserve	2,103	2,035	
Cost of goods sold: FIFO	<u>\$11,932</u>	<u>\$10,617</u>	

1995 LIFO
Inventory turnover = $\frac{\$12,000}{(\$1,921 + \$1,835) + 2} = 6.4$

1995 FIFO
Inventory turnover = $\frac{\$11,932}{(\$4,024 + \$3,870) + 2} = 3.0$

1994 LIFO
Inventory turnover = $\frac{\$10,834}{(\$1,835 + \$1,525) + 2} = 6.4$

1994 FIFO
Inventory turnover = $\frac{\$10,617}{(\$3,870 + \$3,343) + 2} = 2.9$

DEERE (as provided)

1995 LIFO	9.8
1995 FIFO	4.2

CP7-7. (continued)

Req. 2

In all three cases, the ratio is over twice as high under LIFO than FIFO. The LIFO beginning and ending inventory numbers (the denominator) are artificially small because they reflect old lower costs. LIFO cost of goods sold (the numerator) reflects the new higher costs. Thus, the numerator in the LIFO calculation does not relate in a meaningful way to the denominator.

Req. 3

The FIFO inventory turnover ratio is normally thought to be a more accurate indicator when prices are changing because LIFO can include very old inventory prices in ending inventory balances. According to the FIFO ratios, Caterpillar has used inventory more efficiently during the current period than the prior period. However, it is less efficient than John Deere. Such comparisons should also consider any changes in inventory mix between periods or companies, which may also affect the ratio.

CP7-8. (Supplement A)

Req. 1

Pretax operating income as reported	\$ 22.8
Impact of LIFO liquidation	<u>(305.0)*</u>
Pretax operating income (LIFO without liquidation)	<u>\$(282.2)</u>

(*Stated in last line of footnote)

Req. 2

Difference in beginning inventory (LIFO to FIFO)	\$2,077.1
Less: Difference in ending inventory (LIFO to FIFO)	<u>1,886.0</u>
Difference in cost of goods sold (LIFO to FIFO)	<u>\$ 191.1</u>

Pretax Net Income = \$22.8 - 191.1
Pretax Net Income = \$(168.3)

Req. 3

When prices are rising, LIFO normally produces lower pretax operating profits than FIFO because newer, higher-priced items become cost of goods sold, which reduces pretax profits. However, in this case, the magnitude of the LIFO liquidation (which increases pretax profits) was so large that pretax profits under LIFO were actually higher than pretax profits computed under FIFO.

CRITICAL THINKING CASES

CP7-9.

The note does not state that the company also adopted LIFO for tax purposes, but it is reasonable to assume that this change was also made on their tax return. The after-tax effect was to reduce net income by 16 million. Since the company is in the 34% tax bracket, this means that the decrease in pre-tax income was approximately \$24 million. Thus, ending inventory was decreased by approximately \$24 million and cost of goods sold was increased by \$24 million. This resulted in a decrease in tax expense of approximately \$8 million and a decrease in net income of \$16 million.

This \$8 million tax postponement is significant and is likely to be the main reason that management adopted LIFO. A decrease in net income is normally a negative sign to analysts, since it normally implies a decline in future cash flows. In this case, however, the change had a positive cash flow effect (if the assumption discussed above is correct). Most analysts would look favorably on a change, the only effect of which is to provide the company with an additional \$8 million in cash.

CP7-10.

To: The Files
From: The New Staff Member
Re: Effect of restatement

1. The Company understated purchases by \$47.3 million. This causes cost of goods sold to be understated and pre-tax income to be overstated by \$47.3 million. Net income is overstated by that amount times 1 - tax rate:

$$\$47.3 \times (1 - .404) = \$28.2 \text{ million overstatement}$$

2. The restatement of the purchases caused the board to rescind management's bonuses. Accordingly, pre-tax income will increase by \$2.2 million, and net income will increase by that amount times 1 - tax rate.

$$\$2.2 \times (1 - .404) = \$1.3 \text{ million increase}$$

CP7-10. (continued)

3. If it is assumed that bonuses are a fixed portion of net income, the bonus rate can be roughly estimated using the amounts computed in parts 1 and 2.

$$\frac{\text{Change in bonus}}{\text{Change in net income}} = \text{Bonus rate per dollar of net income}$$

$$\frac{2.2 \text{ million}}{28.2 \text{ million}} = \$0.078 \text{ per dollar of net income}$$

4. The Board likely tied management compensation to net income to align the interests of management with that of shareholders. Typically, increases in net income will fuel a rise in the stock price. This type of compensation scheme does create the possibility that unethical management may alter the financial results to receive higher bonuses.

FINANCIAL REPORTING AND ANALYSIS PROJECTS**CP7-11 through CP7-17.**

The solutions to these cases will depend on the company and/or accounting period selected for analysis.

Chapter 8

Reporting and Interpreting Property, Plant, and Equipment; Natural Resources; and Intangibles

ANSWERS TO QUESTIONS

- Long-lived assets are noncurrent assets, which a business retains beyond one year, not for sale, but for use in the course of normal operations. Long-lived assets include land in use, plant and equipment, natural resources, and certain intangibles such as a patent used in operating the business. Long-lived assets are acquired because of the future use that is expected of them. Thus, they may be thought of as a bundle of future services to be used over a period of time to earn revenue. As those services are used, as in the case of a machine, the cost of the asset is allocated as periodic expense (i.e., matched with revenue).
- Long-lived assets are classified as follows:
 - Tangible long-lived assets—assets that are tangible (i.e., have physical substance) and long-lived (i.e., beyond one year); they are acquired for use in the operation of a business and are not intended for resale. They are comprised of three different kinds of assets:
 - Land—not subject to depreciation.
 - Plant and equipment—subject to depreciation.
 - Natural resources—mines, gravel pits, and timber tracts. Natural resources are subject to depletion.
 - Intangible long-lived assets—assets held by the business because of the special valuable rights that they confer; they have no physical substance. Examples are patents, copyrights, franchises, licenses, trademarks and goodwill. Intangible assets are subject to amortization.
- When a long-lived asset is acquired, it is recorded in the accounts in conformity with the cost principle. That is, the acquisition cost of a long-lived asset is the cash equivalent price paid for it plus all incidental costs expended to obtain it and to place it in the location in which it is to be used.

- In measuring and reporting long-lived assets, the matching principle is applied. As a long-lived asset is used, revenues are earned over a period of time. Over that same period of time, the long-lived asset tends to be used up or worn out. As a consequence, under the matching principle, the acquisition cost of the asset must be allocated to the periods in which it is used to earn revenue. In this way the cost of the asset is matched, as expense, with the revenues as they are earned from period to period through the use of the asset.
- A basket purchase occurs when two or more different kinds of assets are acquired for a single purchase price. A basket purchase poses a measurement problem because the total cash equivalent price paid must be allocated among the different kinds of assets acquired. Thus, some method of allocation must be used to apportion the single cost amount to the several assets because they must be recorded in separate asset accounts. An allocation on the basis of the relative market value, tax assessment, or appraised value of each asset acquired usually is used.
- Depreciation—allocation of the costs of tangible long-lived assets over their useful lives. Depreciation refers to allocation of the costs of such items as plant and equipment, buildings, and furniture.
Depletion—allocation of the cost of a natural resource over its useful life. It is identical in concept to depreciation except that it relates to a different kind of asset, depletable natural resources.
Amortization—allocation of the cost of an intangible asset over its estimated useful life. Conceptually, it is the same as depreciation and depletion except it relates to an intangible asset.
- To compute depreciation, the three values that must be known or estimated are:

Cost—the actual total expenditures incurred in acquiring the asset in conformity with the cost principle.

Estimated useful life—the estimated length of time that the asset will be used by the present owner for the purposes for which it was acquired.

Residual value—the estimated amount of cash that is expected to be recovered at the end of the estimated useful life of the asset. The residual value is the estimated cash recovery amount minus the estimated cost of removing and disposing of the asset at the end of its estimated useful life.

Notice that, on the acquisition date, the first of these values is an actual known amount, while the latter two are estimates.
- The estimated useful life and estimated residual value of a long-lived asset when used for depreciation purposes relate to the current owner-user and not to all potential users of the asset because the asset cost must be allocated to the revenue that it generates during the period in which it is to be used by the current owner. The fact that the current owner may dispose of the asset and others may use it to earn revenues for a number of periods after that is of no consequence to the measurement of the asset and income for the current owner (other than for the effect of estimated residual value).
- The straight-line method of depreciation causes an equal amount of depreciation expense to be apportioned to, or matched with, the revenues of each period. It is especially appropriate for tangible long-lived assets that are used at an approximately uniform level from period to period.
 - The units-of-production method of depreciation causes a depreciation expense pattern that varies in amount with the rate at which the asset is used productively each year. For example, if in the current year the asset is used twice as much as in the prior year, twice as much depreciation expense would be matched with the revenue of the current year as compared with the previous year. Usually use is measured in terms of productive output. The units-of-production method of depreciation is particularly appropriate for those assets that tend to earn revenue with use rather than with the passage of time. Thus, it normally would apply to assets that are not used at a uniform rate from period to period.
 - The double-declining-balance method of depreciation is a form of accelerated depreciation, causing a higher amount of depreciation expense to be matched with revenue in early periods of the estimated useful life of the asset. The double-declining-balance method is particularly appropriate when the long-lived assets perform more efficiently and therefore produce more revenue in the early years of their useful life than in the later years.

10. a. Capital expenditures—expenditures of resources (i.e., assets given up or debt incurred) for a service or asset that will help earn revenue for periods beyond the current accounting period. Capital expenditures should be debited to appropriate asset accounts and then allocated to those future periods in which revenues will be earned and against which the expenditures will be matched.

Revenue expenditures—expenditures that help earn revenue only for the current period. Revenue expenditures are debited to appropriate expense accounts in the period in which incurred.

- b. Ordinary repairs—expenditures for the normal maintenance and upkeep of machinery and other tangible long-lived assets that are necessary to keep the assets in their usual operating conditions. Generally, ordinary repairs are recurring in nature, involve relatively small amounts at each occurrence and do not extend the useful estimated life of the asset. Ordinary repairs are debited to expense in the period in which incurred.

Extraordinary repairs—unusual, nonrecurring, major renovations that are necessary because of unusual conditions. Generally, they are large in amount, not recurring, and tend to either make the asset more efficient or to extend its useful life. Extraordinary repairs are debited to the appropriate asset accounts (or alternatively to the accumulated depreciation accounts) and in that way affect the amount of depreciation expense for the remaining estimated life of the asset.

11. The cost of an addition to an existing long-lived asset should be depreciated over the shorter of the estimated life of the addition or the remaining life of the existing asset to which it relates. This rule is necessary because an addition to an existing long-lived asset has no use after the useful life of the existing asset has expired.

12. An intangible asset is acquired and held by the business for use in operations and not for sale. Intangible assets are acquired because of the special rights they confer on ownership. They have no physical substance but represent valuable rights that will be used up in the future. Examples are patents, copyrights, trademarks, franchises, goodwill, and licenses.

An intangible asset may be acquired through purchase from another party, or may be developed internally by the company through its own efforts. In either case, the cost of the intangible asset should be measured and recorded in the accounts at cost and then allocated as expense (amortized) to the periods in which the related revenues are recognized (not in excess of 20 years for most new intangibles).

13. Goodwill represents an intangible asset that exists because of the good reputation, customer appeal, and general acceptance of a business. Goodwill has value because other parties often are willing to pay a substantial amount for it when they buy a business. Goodwill should be recorded in the accounts and reported in the financial statements only when it has been purchased at a measurable cost. The cost of goodwill is measured in conformity with the cost principle and that cost is then amortized over its estimated useful life (not to exceed 20 years for new purchases) in conformity with the matching principle.

14. A leasehold—an intangible asset that arises when a property is leased and rental payments are paid for several years in advance. The advance rental payment is recorded and reported as an intangible asset ("leasehold") and then is amortized over the term of the lease.

Leasehold improvement—a tangible asset, such as a building or other improvement, built by the lessee for its own use on leased property.

A leasehold improvement should be amortized over the shorter of its estimated useful life or remaining life of the lease. This is necessary because at the termination of the lease, unless the contract specifies to the contrary, leasehold improvements belong to the owner of the leased property.

15. The fixed asset turnover ratio =
$$\frac{\text{Net sales}}{[(\text{Beginning net fixed asset balance} + \text{Ending net fixed asset balance}) \div 2]}$$

This ratio measures how efficiently a company utilizes its investment in property, plant, and equipment over time. The ratio can also be compared to the ratio for the company's competitors.

16. Asset impairment—when events or changes in circumstances cause the book value of long-lived assets to be higher than their related estimated future cash flows. It is accounted for by writing down the asset to the amount of estimated future cash flows and recording a loss.

17. Depreciation expense is a noncash expense. That is, each period when depreciation is recorded, no cash payment is made. (The cash outflow associated with depreciation occurs when the related asset is first acquired.) Since no cash payment is made for depreciation, the effect of the depreciation expense on net income needs to be reversed in the reconciliation to cash flows. Depreciation expense was originally subtracted from net income; thus, to reverse its effect, depreciation expense needs to be added back to net income on the statement of cash flows.

Authors' Recommended Solution Time
(Time in minutes)

Mini-exercises		Exercises		Problems		Alternate Problems		Cases and Projects	
No.	Time	No.	Time	No.	Time	No.	Time	No.	Time
1	3	1	10	1	20	1	20	1	20
2	5	2	15	2	20	2	20	2	20
3	3	3	20	3	30	3	30	3	15
4	4	4	15	4	25	4	25	4	40
5	4	5	15	5	20	5	20	5	10
6	4	6	15	6	20	6	20	6	10
7	5	7	15	7	25	7	20	7	15
8	5	8	20	8	20	8	30	8	15
9	5	9	15	9	20	9	25	9	10
10	5	10	10	10	20			10	15
11	4	11	6	11	30			11	15
		12	20	12	20			12	25*
		13	15	13	20			13	20*
		14	15	14	25			14	---
		15	15						
		16	10						
		17	15						
		18	20						
		19	15						
		20	10						
		21	15						

* Due to the nature of these cases and projects, it is very difficult to estimate the amount of time students will need to complete the assignment. As with any open-ended project, it is possible for students to devote a large amount of time to these assignments. While students often benefit from the extra effort, we find that some become frustrated by the perceived difficulty of the task. You can reduce student frustration and anxiety by making your expectations clear. For example, when our goal is to sharpen research skills, we devote class time discussing research strategies. When we want the students to focus on a real accounting issue, we offer suggestions about possible companies or industries.

MINI-EXERCISES

M8-1.

Asset	Nature	Cost	
		Allocation	Concept
(1) Copyright	I		A
(2) Land held for use	L		NO
(3) Warehouse	B		DR
(4) Oil well	NR		DP
(5) New engine for old machine	E		DR
(6) Operating license	I		A
(7) Land held for sale	O (investment)		NO
(8) Delivery vans	E		DR
(9) Timber tract	NR		DP
(10) Production plant	B		DR

M8-2.

Assets		Liabilities		Stockholders' Equity	
Cash	-120,000	Long-term mortgage	+360,000	Common stock	+120,000
Land	+150,000				
Building	+375,000				
Equipment	+75,000				

M8-3.

- (1) R; (2) C; (3) C; (4) R; (5) C; (6) C; (7) C; (8) C; (9) R; (10) N.

M8-4.

Machinery (original cost) \$21,500
 Accumulated depreciation at end of third year
 Depreciation expense = $(\$21,500 \text{ cost} - \$1,500 \text{ salvage value}) \div 4 \text{ years} = \$5,000$
 Accumulated depreciation = \$5,000 annual depreciation expense x 3 yrs = 15,000
 Net book value at end of third year \$6,500

M8-5.

Machinery (original cost)		\$21,500
Accumulated depreciation at end of first year		
Depreciation expense = \$21,500 x 2 / 4	= 10,750	
Accumulated depreciation	<u>10,750</u>	
Net book value at end of first year		\$10,750
Accumulated depreciation at end of second year		
Depreciation expense = \$10,750 x 2 / 4	= 5,375	
Accumulated depreciation	<u>16,125</u>	
Net book value at end of second year		\$5,375
Accumulated depreciation at end of third year		
Depreciation expense = \$5,375 x 2 / 4	= 2,688	
Accumulated depreciation	<u>18,813</u>	
Net book value at end of third year		<u>\$2,687</u>

M8-6.

Machinery (original cost)		\$21,500
Accumulated depreciation at end of third year		
Depreciation expense per machine hour		
= $(\$21,500 \text{ cost} - \$1,500 \text{ salvage value}) = \1		
20,000 machine hours		
Accumulated depreciation		
= \$1 depreciation expense per machine hr x (3,000+8,000+7,000) hrs =	<u>18,000</u>	
Net book value at end of third year		<u>\$3,500</u>

M8-7.

Hansen Company
Excerpts from Statement of Cash Flows
For the Year Ended December 31, 20B

Cash flows from operating activities:		
Net income		\$ 10,000
Add back: Depreciation expense		<u>3,000</u>
Cash provided by (used in) operating activities		<u>13,000</u>
Cash flows from investing activities:		
Purchase of equipment		(75,000)
Sale of land		<u>15,000</u>
Cash provided by (used in) investing activities		<u>(60,000)</u>

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M8-8.

Cutter's fixed asset turnover ratio is

$$= \frac{\text{Net sales}}{[(\text{Beginning net fixed asset balance} + \text{Ending net fixed asset balance}) \div 2]}$$

$$= \frac{3,250,000}{[(1,450,000 + 2,250,000) \div 2]} = 1.76$$

Cutter's ratio is higher than Delta's 1998 ratio of 1.63, indicating that Cutter may be somewhat more efficient in its use of fixed assets.

M8-9.

Store fixtures (original cost)		\$6,200
Accumulated depreciation at end of tenth year		
Depreciation expense = $(\$6,200 \text{ cost} - \$200 \text{ salvage value}) = \500		
12 years		
Accumulated depreciation = \$500 annual depreciation expense x 10 yrs =	<u>5,000</u>	
Net book value at end of tenth year (i.e., NBV immediately prior to sale)		<u>\$1,200</u>

Journal entry to record the disposal is as follows.

Cash (+A).....	1,400	
Accumulated depreciation on store fixtures (-XA→+A).....	5,000	
Store fixtures (-A)	6,200	
Gain on sale of store fixtures (+R→+SE)	200	

M8-10.

Elizabeth Pie Company's management may choose to accept the offer of \$5,000,000 as this amount is more than the \$4,800,000 market value of separately identifiable assets and liabilities (\$4,600,000 for recorded assets and liabilities and \$200,000 for the patent). If so, Bonanza Foods would record \$200,000 of goodwill on the date of purchase (i.e., the excess of the \$5,000,000 purchase price over the \$4,800,000 market value of identifiable assets and liabilities). The \$100,000 difference in goodwill (Elizabeth's \$300,000 estimated value of goodwill less actual goodwill of \$200,000) provides potential for Elizabeth's management to negotiate a higher purchase price.

M8-11.

	Impairment	Loss
a. Machine	Y	\$6,000
b. Copyright	N	—
c. Factory building	Y	\$15,000
d. Leasehold improvement	N	—

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EXERCISES

E8-1.

Hasbro, Inc.
Excerpts from Balance Sheet
(in millions)

ASSETS		
Current Assets		
Cash and cash equivalents		\$178
Accounts receivable	\$1,022	
Less: Allowance for doubtful accounts	<u>64</u>	958
Inventories		335
Prepaid expenses and other current assets		<u>319</u>
Total current assets		1,790
Property, Plant, and Equipment		
Land and improvements		15
Buildings and improvements		197
Machinery and equipment		296
Tools, dies and molds		<u>50</u>
Property, Plant, and Equipment (at cost)		558
Less: Accumulated depreciation		<u>227</u>
Total Property, Plant, and Equipment (net)		331
Other Assets		
Cost in excess of net assets, net of accumulated amortization		704
Other intangibles	1,030	
Less: Accumulated amortization	<u>192</u>	838
Other intangibles, net of accumulated amortization		131
Other noncurrent assets		<u>1,673</u>
Total other assets		<u>\$3,794</u>
Total Assets		<u>\$3,794</u>

E8-2.

Req. 1
Apportionment of price paid (\$178,000) plus transfer costs (\$2,000):

Item	Appraised Value		Apportionment of Lump-Sum Cost	
	Amount	Ratio	Total Cost Paid	Apportioned Cost
Building.....	\$158,384	.76	x \$180,000 =	\$136,800
Land.....	50,016	.24	x 180,000 =	43,200
	<u>\$208,400</u>	<u>1.00</u>		<u>\$180,000</u>

Total cost of building =
Apportioned cost per above, \$136,800 + Renovation cost, \$21,200 = \$158,000

Req. 2

Building (+A).....	158,000	
Land (+A).....	43,200	
Cash (\$178,000 + \$2,000 + \$21,200) (-A).....		201,200

Req. 3
(\$158,000 cost - \$14,000 residual value) ÷ 12 years = \$12,000

Req. 4

Land.....	\$43,200
Building.....	158,000
Less: Accumulated depreciation (\$12,000 x 2).....	<u>24,000</u>
Total book value at end of Year 2.....	<u>\$177,200</u>

E8-3.

Req. 1

Date	Assets	Liabilities	Stockholders' Equity
March 1	No effect	No effect	No effect
March 2	Cash -8,000 Machinery +20,000	Short term note payable +12,000	
March 3	Cash -250 Machinery +250		
March 5	Cash -1,200 Machinery +1,200		
Oct 1	Cash -12,840	Short term note payable -12,000	Interest expense -840

Req. 2
Acquisition cost of the machine:

Cash paid.....	\$ 8,000
Note payable with supplier.....	12,000
Freight costs.....	250
Installation costs.....	<u>1,200</u>
Acquisition cost.....	<u>\$21,450</u>

Req. 3

Acquisition cost (\$20,000 + \$250 + \$1,200).....	\$21,450
Less: Residual value.....	<u>3,450</u>
Amount to be depreciated.....	<u>\$18,000</u>
Depreciation for 20A: (\$18,000 ÷ 10 years) x 10/12 (months) =.....	<u>\$ 1,500</u>

Req. 4
On October 1, 20A, \$840 interest expense (\$12,000 x 12% x 7/12) is paid and is recorded as interest expense. The amount is not capitalized (added to the cost of the asset) because interest is capitalized on constructed assets. This machine was purchased.

Req. 5 (end of 20B)

Cost.....	\$21,450
Accumulated depreciation [\$1,500 + (\$18,000 ÷ 10 yrs. = \$1,800)].....	<u>3,300</u>
Book value at end of 20B.....	<u>\$18,150</u>

E8-4.

Req. 1

a. Cash flows - because cash was paid for interest but the amount of interest expense capitalized was reduced causing net income to be higher.

b. Fixed asset turnover ratio - because the denominator is higher due to interest capitalization.

Req. 2
Because the fixed asset turnover ratio has decreased due to the additional interest capitalization, all other things equal, one would infer that Hilton's effectiveness in utilizing fixed assets has also decreased.

Req. 3
Although the fixed asset turnover ratio decreased due to the interest capitalization, this does not indicate a real change in asset efficiency. The same asset is used to generate the same level of net sales, regardless of whether the interest is capitalized or expensed. This highlights the need to adjust for the effects of differences in accounting policies when evaluating a company and making comparisons across time or across different comparison companies.

E8-5.

Req. 1 (20B):

Depreciation expense (+E → -SE).....	5,000	
Accumulated depreciation, equipment (+XA → -A).....		5,000
Adjusting entry for 20B (\$80,000 - \$5,000) ÷ 15 years = \$5,000.		

Req. 2 (20C)
Remaining life: 15 years - (\$55,000 ÷ \$5,000 = 11 years) = 4 years

Req. 3 (20C):

Repair expense (+E → -SE).....	850	
Cash (-A).....		850
Ordinary repairs incurred.		
Equipment (+A).....	10,500	
Cash (-A).....		10,500
Extraordinary repairs incurred and capitalized.		

E8-5. (continued)

Req. 4 (December 31, 20C):
Adjusting entry for 20C depreciation:

Depreciation expense (+E → -SE).....	7,625	
Accumulated depreciation, equipment (+XA → -A).....		7,625
Equipment cost.....	\$80,000	
Depreciation through 20B.....	<u>55,000</u>	
Net book value before overhaul.....	<u>\$25,000</u>	
Extraordinary repairs capitalized.....	<u>10,500</u>	
Net book value after overhaul.....	<u>\$35,500</u>	
Less residual value.....	<u>5,000</u>	
Balance to be depreciated over remaining life of 4 years.....	<u>\$30,500</u>	
Depreciation 20C: \$30,500 ÷ 4 years = <u>\$7,625</u>		

E8-6.

Date	Assets	Liabilities	Stockholders' Equity
1. 20B	Accumulated depreciation -5,000		Depreciation expense -5,000
2. 20C	Cash -850		Repair expense -850
	Cash -10,500 Equipment +10,500		
3. 20C	Accumulated depreciation -7,625		Depreciation expense -7,625

1. Adjusting entry for 20B (\$80,000 - \$5,000) ÷ 15 years = \$5,000.

3.

Equipment cost.....	\$80,000
Depreciation through 20B.....	<u>55,000</u>
Net book value before overhaul.....	<u>25,000</u>
Extraordinary repairs capitalized.....	<u>10,500</u>
Net book value after overhaul.....	<u>35,500</u>
Less residual value.....	<u>5,000</u>
Balance to be depreciated over remaining life of 4 years.....	<u>\$30,500</u>
Depreciation 20C: \$30,500 ÷ 4 years = <u>\$7,625</u>	

E8-7.

Req. 1

Machine A (+A).....	11,000	
Cash (-A).....		11,000

Req. 2

Age of Machine A at December 31, 20C:
 $(\$28,000 - \$3,000) \div 5 \text{ years} = \$5,000$ per year depreciation.
 $\$10,000 \div \$5,000 = 2$ years old at December 31, 20C.

Req. 3

Depreciation expense (20D) (+E → -SE).....	4,000	
Accumulated depreciation, machinery (+XA → -A).....		4,000

Computations:

Cost when acquired.....	\$28,000
Less: Accumulated depreciation (2 years).....	10,000
Undepreciated balance.....	\$18,000
Add: Major renovation cost.....	11,000
Total.....	\$29,000
Less: Revised residual value.....	5,000
Balance to be depreciated.....	\$24,000
Annual depreciation: $\$24,000 \div (8 \text{ years} - 2 \text{ years})$	\$4,000

Req. 4

Requirement (1) assumed that the major renovation and improvement cost was a capital expenditure rather than a revenue expenditure. Because capital expenditures benefit future periods, the expenditure is added to the book value of the asset and then is depreciated over the remaining life of the asset.

Requirement (3) recognized an accounting change due to a change in estimate (both estimated life and residual value). A change in estimate is not an error correction; consequently it is treated prospectively. That is, the effect is spread over the current year and the future remaining life of the asset. This approach means that the undepreciated balance at the date of the change in estimate is depreciated over the remaining life using the revised estimates.

E8-8.

Req. 1

Year	Depreciation Expense		
	Straight Line	Units of Production	200% Declining Balance
1	\$1,400	\$1,960	\$3,200
2	1,400	1,540	1,600
3	1,400	1,260	800
4	1,400	840	0
Total	\$5,600	\$5,600	\$5,600

Computations:

Straight line: $(\$6,400 - \$800) \div 4 = \$1,400$

Units of production: $(\$6,400 - \$800) \div 80,000 = \$0.07$ per unit of output

Year 1:	28,000 x	\$0.07 =	\$1,960
Year 2:	22,000 x	.07 =	1,540
Year 3:	18,000 x	.07 =	1,260
Year 4:	12,000 x	.07 =	840
Total			\$5,600

200% declining balance (Rate: 2 x the straight line rate of 25% = 50%):

Year 1:	\$6,400 x 50%	\$3,200
Year 2:	$(\$6,400 - \$3,200) \times 50\%$	1,600
Year 3:	$(\$6,400 - \$3,200 - \$1,600) \times 50\%$	800
Year 4:	Fully depreciated (no additional expense is recognized)...	
		\$5,600

Req. 2

If the machine is used evenly throughout its life and its efficiency (economic value in use) is expected to decline steadily each period over its life, then straight-line depreciation would be preferable. If the machine is used at a consistent rate but the efficiency is expected to decline faster in the earlier years of its useful life, then an accelerated method would be appropriate [such as, declining balance (DB)]. If the machine is used at different rates over its useful life and its efficiency declines with output, then the units-of-production method would be preferable because it would result in a better matching of depreciation expense with revenue earned.

For income tax purposes, accelerated methods may be advantageous, because an earlier tax deduction is preferable to a later tax deduction because of the time value of money. However, the accelerated methods may not satisfy the matching principle.

E8-9.

Req. 1

Depreciation expense prior to the change in estimates:
 $(\$450,000 \text{ cost} - \$30,000 \text{ residual value}) \times 1/30 \text{ years} = \$14,000$ annual depreciation

Req. 2

Depreciation expense after the change in estimates:

Step 1 – Age of the asset: $\$196,000 \div \$14,000 = 14$ years of depreciation to date.
 The building has been depreciated over 14 years as of the beginning of the year.

Step 2 – Net book value: $\$450,000 \text{ cost} - \$196,000 \text{ accum. deprec.} = \$254,000$

Step 3 – Computation:
 $(\text{Net Book Value} - \text{Residual Value}) \times 1/\text{Remaining Life} = \text{Depreciation Expense}$
 $(\$254,000 - \$23,000) \times 1/11 \text{ years} = \$21,000$ depreciation expense per year

This was an accounting change due to a change in estimate (both remaining useful life and residual value). A change in estimate is not an error correction; it is treated prospectively. Prospectively means that the undepreciated balance at the date of the change in estimate is depreciated over the remaining useful life using the revised estimates.

Req. 3

The depreciation expense increases by \$7,000 each year for the next 11 years. Therefore, net income will be lower by \$7,000 (ignoring taxes) each year; this in turn will lower Retained Earnings on the balance sheet. Also on the balance sheet, the asset's net book value will be lowered by an additional \$7,000 each year for 11 years. However, since depreciation is a noncash expense, there are no cash flow implications (again ignoring income tax considerations).

E8-10.

Req. 1

Under GAAP, assets are recorded at their acquisition cost. Many annual reports refer to this as "historical cost" in contrast to the current market value of the asset. The "provision for depreciation," as used in most annual reports, is synonymous with "depreciation expense."

Req. 2

Most companies use straight-line depreciation for financial reporting purposes. It is a simple method to use and understand. Usually, the use of straight-line depreciation results in higher net income when compared to the accelerated methods (the opposite is true in the later years of an asset's life). Management of Eastman Kodak probably felt that these benefits justified the switch from accelerated depreciation to straight-line. The change did not require the Company to switch methods for tax purposes, so there were no negative cash flow consequences.

E8-11.

Straight-line depreciation (SL) is a simple method to use and understand. Managers often prefer SL because it results in higher net income when compared with the accelerated methods. Because SL depreciation usually results in higher income, it is not desirable to use it for tax reporting purposes. By using SL depreciation for tax purposes a company would have to pay higher taxes. In any case, the tax code specifies that the MACRS, an accelerated method, must be used for most tangible depreciable property placed in service after December 31, 1986.

E8-12.

Req. 1

Method of Depreciation	Depreciation Expense		Book Value at End of	
	Year 1	Year 2	Year 1	Year 2
Straight-line.....	\$12,000	\$12,000	\$53,000	\$41,000
Units of production.....	16,000	18,000	49,000	31,000
Double-declining balance.....	26,000	15,600	39,000	23,400

Computations:

Amount to be depreciated: \$65,000 – \$5,000 = \$60,000:

Straight line: \$60,000 ÷ 5 years = \$12,000 per year

Units of production: \$60,000 ÷ 150,000 units = \$.40 per unit

Year 1: 40,000 x \$.40 = \$16,000

Year 2: 45,000 x .40 = 18,000

Double-declining balance (Rate: 2 x the straight line rate of 20% = 40%):

Year 1: \$65,000 x 40% = \$26,000

Year 2: (\$65,000 – \$26,000) x 40% = \$15,600

Req. 2

The double-declining balance method would result in the lowest EPS for Year 1 because it produced the highest depreciation expense and therefore the lowest income (from Requirement 1). In Year 2, the units-of-production method would result in the lowest EPS because it produced the highest depreciation expense and therefore the lowest income in that year.

Req. 3

Depreciation is a noncash expense; that is, no cash is paid when depreciation is recognized. Ignoring income tax implications, all methods have the same impact on cash flows in year 1. Assuming a method is applied for tax determination, the straight-line method will result in the lowest expense, highest net income, highest tax liability, and therefore the highest amount of cash outflows in year 1. Companies will select methods for tax purposes that reduce tax obligations.

Req. 4

The machine acquisition would decrease cash provided by investing activities by the purchase cost of \$65,000. As a noncash expense, the annual depreciation should have no overall effect on cash provided by operating activities—however, because it is originally subtracted from net income, an adjustment needs to be made to reverse this effect for cash

flows. Hence, \$12,000 (the annual straight-line depreciation) must be added back to net income in the operating section of the statement of cash flows.

E8-13.

Req. 1

Fixed asset turnover ratio: (in millions)
Sales ÷ [(beginning net fixed assets + ending net fixed assets) ÷ 2]

1990	1992	1994	1996	1998
\$5,558 ÷ \$366	\$7,086 ÷ \$455	\$9,180 ÷ \$663.5	\$9,833 ÷ \$654.5	\$5,941 ÷ \$417
15.19	15.57	13.84	15.02	14.25

Computation of denominator:

1990 (\$334 + 398) ÷ 2 = \$366

1992 (\$448 + 462) ÷ 2 = \$455

1994 (\$660 + 667) ÷ 2 = \$663.5

1996 (\$711 + 598) ÷ 2 = \$654.5

1998 (\$486 + 348) ÷ 2 = \$417

Req. 2

Apple's fixed asset turnover ratio has remained reasonably stable through the 1990s, indicating that the company has maintained approximately the same level of efficiency in utilizing its long-lived assets while that asset base has been shrinking. While the company's ratio showed modest improvement in 1996 after the slight downturn in 1994, the company was not able to maintain this improvement in 1998—more analysis is needed to determine if this indicates some instability in its operations. An analyst can use this longitudinal analysis to observe possible trends over time. In addition, the analyst may compare Apple's ratios to those of competitors in the industry.

E8-14.

Req. 1

Cash (+A).....	5,000	
Accumulated depreciation (–XA→+A).....	13,000	
Delivery truck (–A).....		18,000
Sale of an asset at book value; the result is no loss or gain.		

Req. 2

Cash (+A).....	5,600	
Accumulated depreciation (–XA→+A).....	13,000	
Gain on sale of long-lived asset (+R→+SE).....		600
Delivery truck (–A).....		18,000
Sale of an asset above book value; the result is a gain.		

Req. 3

Cash (+A).....	4,600	
Accumulated depreciation (–XA→+A).....	13,000	
Loss on sale of long-lived asset (+E→–SE).....	400	
Delivery truck (–A).....		18,000
Sale of an asset below book value; the result is a loss.		

Req. 4 Summarization of the effects of the disposal:

1. The loss or gain on disposal of a long-lived asset is the difference between the disposal price and the book value at date of disposal.
2. When the disposal price is the same as the book value there is no loss or gain; when the price is above book value there is a gain; and when the price is below book value, there is a loss on disposal.
3. A loss or gain on disposal of a long-lived asset normally would occur because the book value does not purport to be market value.

E8-15.

Req. 1

	Assets	Liabilities	Stockholders' Equity
a.	Cash +5,000		
	Delivery truck -18,000		
	Accumulated depreciation +13,000		
b.	Cash +5,600		Gain on sale +600
	Delivery truck -18,000		
	Accumulated depreciation +13,000		
c.	Cash +4,600		Loss on sale -400
	Delivery truck -18,000		
	Accumulated depreciation +13,000		

Req. 2 Summarization of the effects of the disposal:

1. The loss or gain on disposal of a long-lived asset is the difference between the disposal price and the book value at date of disposal.
2. When the disposal price is the same as the book value there is no loss or gain; when the price is above book value there is a gain; and when the price is below book value, there is a loss on disposal.
3. A loss or gain on disposal of a long-lived asset normally would occur because the book value does not purport to be market value.

50,000 cubic yards in 20B x \$.60 = \$30,000

E8-16.

Req. 1

Depreciation expense per year: $\$4,000 \div 2 = \$2,000$
 Estimated useful life: $(\$12,000 - \$2,000) \div \$2,000 = \underline{5 \text{ years}}$

Req. 2

September 30, 20C:

Depreciation expense (-E → -SE).....	1,500	
Accumulated depreciation (+XA → -A).....		1,500
To bring accumulated depreciation up to the date of the accidental loss [(\$12,000 - \$2,000) ÷ 5 years] x 9/12 = \$1,500.		

October 5, 20C:

Cash (+A).....	5,600	
Accumulated depreciation (\$4,000 + \$1,500) (-XA → +A).....		5,500
Loss on disposal of truck (+E → -SE).....	900	
Truck (-A).....		12,000
To record insurance recovery and disposal of wrecked truck.		

E8-17.

Req. 1

Computation of acquisition cost of the deposit in 20A:

February 20A: Purchase of mineral deposit	\$ 700,000
March 20A: Preparation costs	65,000
Total acquisition cost in 20A	<u>\$ 765,000</u>

Req. 2

Computation of depletion for 20A:

$\$765,000 \text{ cost} \div 900,000 \text{ cubic yards} = \$.85 \text{ per cubic yard depletion rate}$
 $60,000 \text{ cubic yards in 20A} \times \$.85 = \underline{\$51,000}$

Req. 3

Computation of acquisition cost of the deposit in 20B:

Total acquisition cost in 20A	\$ 765,000
January 20B: Developmental costs	6,000
Total acquisition cost in 20B	<u>\$ 771,000</u>

Req. 4

Computation of depletion for 20B:

This is a change in estimate.
 $(\$771,000 \text{ new acquisition cost} - \$51,000 \text{ prior amortization}) \div 1,200,000 \text{ estimated remaining cubic yards} = \$.60 \text{ per cubic yard depletion rate}$

E8-18.

Req. 1

Acquisition cost:	
Patent	\$ 5,640
Franchise	25,000
Leasehold improvements	7,800

Req. 2

Amortization on December 31, 20H:

Patent amortization expense	$\$5,640 \div (17 - 7 = 10 \text{ years remaining}) = \564
Franchise amortization expense	$\$25,000 \div 5 \text{ years} = \$5,000$
Leasehold amortization expense	$\$7,800 \div 5 \text{ years (term of lease)} = \$1,560$

Req. 3

Income statement for 20H:

Operating expenses (\$564 + \$5,000 + \$1,560).....	\$7,124
---	---------

Balance sheet at December 31, 20H:

Fixed Assets:		
Intangibles:		
Patent.....	\$ 5,076	
Franchise.....	20,000	
Leasehold improvements.....	6,240	<u>\$31,316</u>

E8-19.

Req. 1 (January 1, 20D):

Rent expense (+E → -SE).....	4,000	
Leasehold (or Long-term prepaid rent) (+A).....	12,000	
Cash (-A).....		16,000

Req. 2 (January 20D):

Leasehold improvement (or Building or Construction in progress) (+A).....	60,000	
Cash (-A).....		60,000

Req. 3 (adjusting entries):

December 31, 20D:

(a) Rent expense (+E → -SE).....	800	
Leasehold (-A).....		800
(\$12,000 ÷ 15 years = \$800)		
(b) Depreciation expense* (+E → -SE).....	4,000	
Leasehold improvement (-A).....		4,000
(\$60,000 ÷ 15 years = \$4,000)		

* Some accountants prefer to label this Rent Expense or Amortization of Leasehold Improvement. The cost of the improvement should be allocated over the shorter of the life of the improvement or the lease term.

Req. 4

Monthly rentals (\$4,000 x 12).....	\$48,000
Amortization of advance rental (\$12,000 ÷ 15).....	800
Depreciation expense (on leasehold improvement).....	4,000
Total expense.....	<u>\$52,800</u>

E8-20

Cost of Property, Plant, and Equipment			
Beg. Bal	192		
Capital expenditures	29	43	Write-offs
End. Bal.	178		

Accumulated Depreciation			
		63	Beg. bal.
Write-offs	13	27	Depreciation.
		77	End. bal.

E8-21

Item	Location
1. The detail on major classifications of long-lived assets.	(a) Balance sheet, or (b) Notes to the financial statements
2. The accounting method(s) used for financial reporting purposes.	Notes to the financial statements
3. Whether the company has had any capital expenditures for the year.	Statement of cash flows or increase in assets on the balance sheet
4. Net amount of property, plant, and equipment.	(a) Balance sheet, or (b) Notes to the financial statements
5. Policies on amortizing intangibles.	Notes to the financial statements
6. Depreciation expense.	(a) Income statement, or (b) Statement of cash flows, or (c) Notes to the financial statements
7. Any significant gains or losses on disposals of fixed assets.	(a) Income statement, or (b) Statement of cash flows
8. Prior year's accumulated depreciation.	(a) Balance sheet, or (b) Notes to the financial statements
9. The amount of assets written off as impaired during the year.	(a) Income statement, or (b) Statement of cash flows, or (c) Notes to the financial statements

PROBLEMS

P8-1.

Req. 1

Long-lived assets are tangible and intangible resources owned by a business and used in its operations over several years. Tangible assets (such as property, plant, and equipment or natural resources) are assets that have physical substance. Intangible assets (such as goodwill or patents) are assets that have special rights but not physical substance.

Req. 2.

Date	Assets		Liabilities		Stockholders' Equity	
Jan 2	Machinery ⁽¹⁾	+71,520	Note payable	+40,000	Common stock ⁽³⁾	+2,000
	Cash	-2,000	Accounts payable ⁽²⁾	+23,520	Additional paid-in capital ⁽⁴⁾	+4,000
Jan 15	Cash	-24,000	Accounts payable	-23,520	Financing expense	-480

- Computations:
- (1) Machinery: \$70,000 invoice - \$480 (2% of \$24,000 cash to be paid*) + \$2,000 installation
* Assets are recorded at the cash equivalent price
- (2) Balance payable: \$70,000 invoice - \$40,000 note payable - \$6,000 common stock and additional paid in capital - \$480 (2% of \$24,000 cash to be paid)
- (3) Common stock: \$1 par value x 2,000 shares
- (4) Additional paid-in capital: (\$3 market value - \$1 par value) x 2,000 shares

Req. 3.

Cost of the machinery includes installation costs. Freight was excluded because it was an expense to the vendor. No discount was taken because Ethel Company paid the cash balance due after the discount period ended. Common stock is valued at \$3 per share—for accounting purposes, this amount is allocated between the common stock account for the par value (\$1 per share) and the additional paid-in capital account for the remaining value (\$2 per share in excess of par value).

P8-2.

Req. 1

Long-lived assets are tangible and intangible resources owned by a business and used in its operations over several years. Tangible assets (such as property, plant, and equipment or natural resources) are assets that have physical substance. Intangible assets (such as goodwill or patents) are assets that have special rights but not physical substance.

Req. 2.

On January 2, 20A:

Machinery (+A).....	(1)	71,520
Cash (-A).....		2,000
Note payable (+L).....		40,000
Accounts payable (+L).....	(2)	23,520
Common stock (+SE).....	(3)	2,000
Additional paid-in capital (+SE).....	(4)	4,000

On January 15, 20A:

Accounts payable (-L).....	23,520
Financing expense (+E → -SE).....	480
Cash (-A).....	24,000

- Computations:
- (1) Machinery: \$70,000 invoice - \$480 (2% of \$24,000 cash to be paid*) + \$2,000 installation
- (2) Balance payable: \$70,000 invoice - \$40,000 note payable - \$6,000 common stock and additional paid in capital - \$480
- (3) Common stock: \$1 par value x 2,000 shares
- (4) Additional paid-in capital: (\$3 market value - \$1 par value) x 2,000 shares
- *Assets are recorded at the cash equivalent price

Req. 3.

Cost of the machinery includes installation costs. Freight was excluded because it was an expense to the vendor. No discount was taken because Ethel Company paid the cash balance due after the discount period ended. Common stock is valued at \$3 per share—for accounting purposes, this amount is allocated between the common stock account for

the par value (\$1 per share) and the additional paid-in capital account for the remaining value (\$2 per share in excess of par value).

expense is added back to net income because the expense reduces net income, yet is not a cash outlay.

P8-3.

Req. 1

	Building	Accum. Deprec.	Deprec. Expense	Repairs Expense	Cash
Balance 1/1/20D	\$420,000	\$210,000			
Depreciation through June 30		10,500	(1)10,500		NE
Balance prior to expenditures	420,000	220,500	10,500		
a.	NE	NE	NE	+ 7,000	-7,000
b.	22,000	NE	NE	NE	-22,000
c.	130,000	NE	NE	NE	-130,000
Depreciation July - Dec. 31:					
Existing building		10,500	(1)10,500	NE	NE
Repairs and additions		8,000	(2) 8,000	NE	NE
Balance 12/31/20D	\$572,000	\$239,000	\$29,000	\$7,000	

- (1) \$420,000 cost ÷ 20 years = \$21,000 per year x 1/2 year = \$10,500.
- (2) \$152,000 cost ÷ 9.5 remaining years = \$16,000 x 1/2 year = \$8,000.

At the start of 20D, the old building had a remaining useful life of 10 years. The new items were recorded on June 30, 20D; therefore, they must be depreciated over 9.5 years remaining useful life.

Req. 2

Book Value of Building:

Building (\$420,000 + \$22,000 + \$130,000)	\$572,000
Less: Accumulated depreciation (\$210,000 + \$29,000)	239,000
Carrying (book) value	<u>\$333,000</u>

Req. 3

Depreciation is a noncash expense. Unlike most expenses, no cash payment is made when the expense is recognized. The cash outflow occurred when the related asset was acquired. For companies selecting the indirect method of preparing a statement of cash flows (reconciling net income on the accrual basis to cash from operations), depreciation

P8-4.

Req. 1

Apportionment of purchase price plus transportation costs (\$38,000 + \$2,000 = \$40,000):

Machine	Appraised Value		Apportionment of Lump-Sum Cost	
	Amount	Ratio	Computations	Apportioned Cost
A	\$ 9,500	.19	\$40,000 x .19	\$7,600
B	\$32,000	.64	\$40,000 x .64	25,600
C	\$ 8,500	.17	\$40,000 x .17	6,800
Total	\$50,000	1.00		\$40,000

The appraised values were used for apportionment because they are the best data available that reflect the relative relationship of market values to total purchase cost for the three machines.

Cost of each machine:

	Machine			Total
	A	B	C	
Apportioned purchase price + transportation cost (from above).....	\$7,600	\$25,600	\$6,800	\$40,000
Installation costs	300	500	200	1,000
Renovation costs	2,000	400	600	3,000
Total cost.....	<u>\$9,900</u>	<u>\$26,500</u>	<u>\$7,600</u>	<u>\$44,000</u>

Req. 2

Computation of annual depreciation for each machine:

Machine	Method	Computation
A	Straight-line	(\$9,900 - 1,500) ÷ 1/5 years = <u>\$1,680</u>
B	Units-of-production	(\$26,500 - 900) ÷ 40,000 hours = \$.64 \$.64 x 8,000 hours = <u>\$5,120</u>
C	200% declining balance	(\$7,600 - 0) x 2/4 years = <u>\$3,800</u>

Adjusting entry:

Depreciation expense (\$1,680 + \$5,120 + \$3,800) (+E → -SE)	10,600	
Accumulated depreciation, Machine A (+XA → -A)		1,680
Accumulated depreciation, Machine B (+XA → -A)		5,120
Accumulated depreciation, Machine C (+XA → -A)		3,800

P8-5.

Req. 1

(a) Cost of press.....	\$400,000
Residual value	50,000
Amount to depreciate over 20 years.....	<u>\$350,000</u>
Annual depreciation expense recorded in 20C (\$350,000 ÷ 20 years).....	<u>\$17,500</u>
(b) Cost of press.....	\$400,000
Less: Accumulated depreciation for 8 years (\$17,500 x 8).....	140,000
Book (carrying) value at end of 20C.....	<u>\$260,000</u>

Req. 2

Cost of press	\$400,000
Accumulated depreciation at end of 20C (from Req. 1).....	140,000
Undepreciated amount.....	\$260,000
Less: Revised residual value	73,000
Remaining balance to depreciate	<u>\$187,000</u>
Annual depreciation for 20D [(\$187,000 ÷ (25 years - 8 years = 17 years))].....	<u>\$11,000</u>

Req. 3

December 31, 20D—Adjusting entry:		
Depreciation expense (+E → -SE).....	11,000	
Accumulated depreciation (+XA → -A).....		11,000

P8-6.

Req. 1

Depreciation expense of \$3,123 recorded in 1999 is inferred from the activities affecting the Accumulated Depreciation account:

Accumulated Depreciation			
		14,982	Beg. bal.
Asset sales	0	3,123	Deprec. Exp.
		<u>18,105</u>	End. bal.

Req. 2

Recording depreciation at the end of the period increases expenses (and thus decreases net income and stockholders' equity) and decreases the net book value of the property and equipment accounts. Failing to record depreciation creates the opposite effects.

Ratio	Computation	Effect on Ratio of Failing to Record Depreciation Expense
Earnings per share	$\frac{\text{Net income}}{\text{Number of shares of stock outstanding}}$	Net income will be overstated with no change in the denominator → Overstated
Fixed asset turnover	$\frac{\text{Sales}}{\text{Average net fixed asset balance}}$	Numerator does not change; however, the denominator is overstated → Understated
Assets to equity	$\frac{\text{Total assets}}{\text{Total stockholders' equity}}$	Both assets and stockholders' equity are overstated by the same amount; however, because assets are normally greater than stockholders' equity → Understated
Return on equity	$\frac{\text{Net income}}{\text{Average stockholders' equity}}$	Net income is overstated and so is stockholders' equity, although at a lower amount due to averaging → Overstated

P8-7.

Req. 1

Depreciation Method	Depreciation Expense		Book Value at End of:	
	Year 1	Year 2	Year 1	Year 2
Straight line	\$6,600	\$6,600	\$61,625	\$55,025
Units of production	7,500	6,000	60,725	54,725
200% declining balance	13,645	10,916	54,580	43,664

Computations: Amount to be depreciated: \$68,225 - \$2,225 = \$66,000.

Straight line: $\$66,000 \div 10 \text{ years} = \$6,600 \text{ per year}$

Units of production: $\$66,000 \div 88,000 = \0.75 per unit

Depreciation: Year 1: $10,000 \times \$0.75 = \$7,500$

Year 2: $8,000 \times \$0.75 = \$6,000$

200% declining balance:

Depreciation: Year 1: $\$68,225 \times 2/10 = \$13,645$

Year 2: $(\$68,225 - \$13,645) \times 2/10 = \$10,916$

Req. 2

Cash flow—For tax purposes, the declining balance (DB) method usually is viewed as preferable because an early tax deduction is preferable to a later tax deduction. DB depreciation expense is highest; therefore, it yields lower taxable income and therefore lower income tax payable (and lower cash outflow) in the early years. In later years, this effect would reverse. For financial reporting purposes, cash flows are unaffected by the method chosen by management. Companies may select different methods for tax and financial reporting.

Fixed asset turnover—The DB method would be most favorable for fixed asset turnover. Because this depreciation method yields the highest amount of depreciation expense, it yields the lowest level of fixed assets and thus the highest fixed asset turnover during the early years. In later years, this effect would reverse.

EPS—In terms of EPS, straight-line (SL) depreciation would be favorable. This depreciation method yields the lowest amount of depreciation expense, the highest net income, and therefore the highest EPS during the early years when compared with the accelerated methods. In later years, this comparative effect would reverse.

P8-7. (continued)

Recommendation to Southwestern Bell's management—Companies may choose a different method for tax purposes than for financial reporting purposes. The goal of reducing taxes in year 1 is best accomplished by using the DB method. The ease of use of the SL depreciation method for financial reporting would result in the highest EPS for year 1 (assuming no other method better reflects matching expenses with revenues). As time goes on (in years 2 and later), the relative advantages of one method over another will reverse. However, accounting methods should be used consistently over time. Changing methods in the future would require reasonable justification.

P8-8.

Req. 1

Original cost	\$52,000
Residual value	8,000
Amount to be depreciated	<u>\$44,000</u>

Depreciation per year, $\$44,000 \div 8 \text{ years} = \$5,500$

Age at January 1, 20E: $\$27,500 \div \$5,500 = 5 \text{ years}$.

P8-8. (continued)

Req. 2

When the machine was sold on April 1, 20E, two entries were necessary:

- Record depreciation expense up to April 1, 20E. The amount that needs to be recorded is \$1,375 (increase Depreciation Expense and increase Accumulated Depreciation). $[(\$52,000 \text{ cost} - 8,000 \text{ residual value}) \div 8 \text{ years} \times 3/12 \text{ of a year}]$
- Record the disposal of the machine on April 1, 20E. The reduction in the Machine (\$52,000 cost) and related Accumulated Depreciation (\$28,875) accounts must be recorded, as well as the receipt of cash (\$26,000), and any gain or loss on disposal (Net book value - cash received = \$2,875 gain).

Effect on Total Assets:

Additional accumulated depreciation	- \$ 1,375
Cash	+ 26,000
Machine (net) (\$52,000 cost - 28,875 accumulated depreciation)	- 23,125
Net effect on total assets	<u>+ \$ 1,500</u>

Effect on Net Income:

Additional depreciation expense	- \$ 1,375
Gain on disposal of machine	+ 2,875
Net effect on net income	<u>+ \$ 1,500</u>

Effect on Cash Flows:

Operating activities:	
Net income (as above)	+ \$ 1,500
Add: Depreciation expense	+ 1,375
Subtract: Gain on disposal of machine	- 2,875
Net effect on cash flows from operating activities:	<u>\$ 0</u>

Investing activities:

Cash received from disposal of machine	+ \$26,000
Net effect on cash flows from investing activities:	<u>+ \$26,000</u>

Financing activities:

Net effect on cash flows from financing activities: \$ 0

P8-9.

Req. 1

Fixed Assets			
Beg. balance	13,874.0		
Acquisitions	2,453.5	1,453.1	Disposals/transfers
End. balance	14,874.4		

Accumulated Depreciation			
		5,458.2	Beg. balance
Disposals/transfers	363.9	842.2	Depreciation expense
		5,936.5	End. balance

Req. 2

Net book value of the disposals and transfers (\$1,453.1 - 363.9) \$1,089.2
 Add: Surplus on sale of fixed assets (on statement of cash flows) 1.3
 Cash proceeds from disposals and transfers \$1,090.5

Req. 3

Percentage depreciation expense to cash flow from operations
 = (\$842.2 / \$1,679.1) x 100 = 50.2%

Approximately half of the cash flow from operations resulted from adding back depreciation expense to net income in the reconciliation. This indicates the high level of capital assets needed for the airlines' operations.

P8-10.

Req. 1

Machine A - Jan. 1, 20C:
 (a) Depreciation expense in 20C - none recorded because disposal date was Jan. 1, 20C.

(b) To record disposal:

Cash (+A).....	8,200	
Accumulated depreciation, machine A (-XA→+A).....	12,750	
Machine A (-A).....		20,000
Gain on disposal of machine (R).....		950

Machine B - April 1, 20C:

(a) To record depreciation expense for Jan. through March, 20C:

Depreciation expense (+E→-SE).....	965	
Accumulated depreciation, machine B (+XA→-A).....		965
(\$42,600 - \$4,000) ÷ 10 years x 3/12 = \$965.		

(b) To record disposal:

Cash (+A).....	3,000	
Note receivable (+A).....	7,000	
Accumulated depreciation, machine B (\$30,880 + \$965) (-XA→+A).....	31,845	
Loss on disposal of machine (+E→-SE).....	755	
Machine B (-A).....		42,600

Machine C - July 2, 20C:

(a) Depreciation expense for Jan. through June, 20C:

Depreciation expense (+E→-SE).....	2,400	
Accumulated depreciation, machine C (+XA→-A).....		2,400
(\$76,200 - \$4,200) ÷ 15 years x 6/12 = \$2,400.		

(b) To record disposal:

Cash (+A).....	18,500	
Accumulated depreciation, machine C (\$57,600 + \$2,400) (-XA→+A).....	60,000	
Machine C (-A).....		76,200
Gain on disposal of machine (+R→+SE).....		2,300

P8-10. (continued)

Req. 2.

Machine A - Jan. 1, 20C: Disposal of a long-lived asset with the price above net book value, resulting in a gain.

Machine B - April 1, 20C: Disposal of a long-lived asset with the price below net book value, resulting in a loss.

Machine C - July 2, 20C: Disposal of a long-lived asset with the price (equal to the insurance proceeds) above net book value, resulting in a gain.

P8-11.

Req. 1

Date	Assets	Liabilities	Stockholders' Equity
Jan. 10	Machine A +7,000 Machine B +7,000 Cash -14,000		
July 1	Patent +19,600 Cash -19,600		
Jan. 1	Assets (of company purchased - not detailed) +44,000 Goodwill +16,000 Cash -60,000		
Sept. 1	Leasehold improvement +10,800 Cash -10,800		
19E	Cash -4,800		Repair and maintenance expense -4,800
July 1	Accumulated depreciation, machine A ⁽¹⁾ -5,800		Depreciation expense -5,800
	Cash +6,000 Machine A ⁽²⁾ -33,000 Accumulated depreciation, machine A ⁽³⁾ +24,200		Loss on disposal of long-lived asset ⁽⁴⁾ -2,800

P8-11. (continued)

Req. 1 (continued)

Computations for Machine A:

(1) Cost	\$26,000
Add: Reconditioning	7,000
Total.....	33,000
Less: depreciation to Jan. 1, 20E (given).....	18,400
Residual value	3,000
Remaining cost to depreciate.....	<u>\$11,600</u>

Computation of estimated life:

\$18,400/4 years = \$4,600 depreciation per year
 (\$26,000 - 3,000 = \$23,000)/\$4,600 = 5 year estimated life
 Depreciation expense (Jan. 1 - July 1): \$11,600 x 6/12 = \$5,800.

(2) Cost	\$26,000
Add: Reconditioning	7,000
Total cost	<u>\$33,000</u>

(3) Accumulated depreciation to Jan. 1, 20E	\$18,400
Add: Depreciation expense (Jan. 1 - July 1) (above).....	5,800
Total accumulated depreciation	<u>\$24,200</u>

(4) Loss on disposal of long-lived asset:	
Cash proceeds of disposition.....	\$6,000
Net book value of Machine A (\$33,000 - \$24,200).....	\$8,800
Loss on disposal of long-lived asset.....	<u>\$2,800</u>

P8-11. (continued)

Req. 2 December 31, 20E Depreciation

Machine A: \$ 0
Machine A was sold on July 1, 20E. No additional depreciation is necessary.

Machine B: 5,000
Cost \$32,000
Add: Reconditioning 7,000
Total 39,000
Less: accumulated depreciation 13,000
Residual value 6,000
Remaining cost to depreciate \$20,000

Computation of estimated life:
\$13,000/4 years = \$3,250 depreciation per year
(\$32,000 - 6,000 = \$26,000)/\$3,250 = 8 year estimated life
\$20,000 remaining depreciable cost ÷ 4 years remaining life = \$5,000

Patents: \$19,600 ÷ 7 years × 6/12 = \$1,400. 1,400

Goodwill: \$16,000 ÷ 20 years = \$800. 800

Leasehold improvements: 1,200

Depreciate over shorter of: (a) remaining lease term or (b) life of the asset.

Remaining lease term, 3 years (36 months).

Life of asset, 5 years (60 months).

Depreciation for 20E: 4/36 × \$10,800 = \$1,200.

Total depreciation expense to be recorded on Dec 31, 20E \$8,400

P8-12.

Req. 1

January 5, 20A:
Cash purchase price..... \$400,000
Less market value of identifiable assets:
Accounts receivable..... \$ 45,000
Inventory..... 210,000
Fixed assets (A)..... 60,000
Other assets (A)..... 10,000 325,000
Difference (Goodwill)..... \$ 75,000

Req. 2

December 31, 20A:

a. Adjusting entry for depreciation expense:
\$60,000 ÷ 15 years = \$4,000.

b. Adjusting entry to amortize goodwill over 20-year period:
\$75,000 ÷ 20 years = \$3,750.

P8-13.

Date	Assets	Liabilities	Stockholders' Equity
Jan. 1	Patent +6,000 Cash -6,000		
Jan. 1	Copyright +14,000 Cash -14,000		
Jan.	Assets (not detailed) +90,000 Goodwill +30,000 Cash -120,000		
Dec. 31	Patent -500 ((\$6,000 ÷ 12 yrs = \$500))		Patent amortization expense -500
Dec. 31	Copyright -700 ((\$14,000 ÷ 20 yrs = \$700))		Copyright amortization expense -700
Dec. 31	Goodwill -1,500 ((\$30,000 ÷ 20 yrs = \$1,500))		Goodwill amortization expense -1,500

P8-14.

Req. 1

a. Patent amortization for one year, \$54,600 ÷ 13 years = \$4,200.

b. Copyright amortization for one year, \$22,500 ÷ 25 years = \$900.

c. Franchise amortization for one year, \$14,400 ÷ 12 years = \$1,200.

d. License amortization for one year, \$14,000 ÷ 5 years = \$2,800.

e. Goodwill amortization for one year, based on maximum 20-year amortization period: \$60,000 ÷ 20 years = \$3,000.

Req. 2

Item	Date Acquired	Book Value Computations	Book Value Jan. 1, 20G
a. Patent	Jan. 1, 20E	\$54,600 - (\$4,200 × 2)	\$ 46,200
b. Copyright	Jan. 1, 20E	\$22,500 - (\$ 900 × 2)	\$ 20,700
c. Franchise	Jan. 1, 20E	\$14,400 - (\$1,200 × 2)	\$ 12,000
d. License	Jan. 1, 20D	\$14,000 - (\$2,800 × 3)	\$ 5,600
e. Goodwill	Jan. 1, 20C	\$60,000 - (\$3,000 × 4)	\$ 48,000
Total book value			<u>\$132,500</u>

Req. 3

Copyright, book value at January 1, 20G \$20,700
Expected future cash flows 15,000
Impairment loss to be recorded, January 2, 20G..... \$ 5,700

ALTERNATE PROBLEMS

AP8-1.

Req. 1

Long-lived assets are tangible and intangible resources owned by a business and used in its operations over several years. Tangible assets (such as property, plant, and equipment or natural resources) are assets that have physical substance. Intangible assets (such as goodwill or patents) are assets that have special rights but not physical substance.

Req 2.

Date	Assets		Liabilities		Stockholders' Equity	
June 1	Machinery ⁽¹⁾	+61,500	Note payable ⁽²⁾	+50,000	Common stock ⁽³⁾	+4,000
	Cash	-1,500			Additional paid-in capital ⁽⁴⁾	+6,000
Sept 2	Cash	-51,500	Note payable	-50,000	Interest expense ⁽⁵⁾	-1,500

Computations:

- (1) Machinery: \$60,000 invoice + \$1,500 installation
- (2) Balance payable: \$60,000 invoice - \$10,000 common stock and additional paid in capital
- (3) Common stock: \$2 par value x 2,000 shares
- (4) Additional paid-in capital: (\$5 market value - \$2 par value) x 2,000 shares
- (5) Interest expense: \$50,000 x 12% x 3/12

Req 3.

Cost of the machinery includes installation costs. Freight should not be included because it was paid by the vendor. The \$1,500 interest is not a part of the cost of the machinery—it must be recorded as an interest expense because it is a cost of financing. Common stock is valued at \$5 per share—for accounting purposes, this amount is allocated between the common stock account for the par value (\$2 per share) and the additional paid-in capital account for the remaining value (\$3 per share in excess of par value).

AP8-2.

Req. 1

Long-lived assets are tangible and intangible resources owned by a business and used in its operations over several years. Tangible assets (such as property, plant, and equipment or natural resources) are assets that have physical substance. Intangible assets (such as goodwill or patents) are assets that have special rights but not physical substance.

Req 2.

On June 1, 20B:

Machinery (+A)	(1)	61,500	
Cash (-A)			1,500
Note payable (+L)	(2)		50,000
Common stock (+SE)	(3)		4,000
Additional paid-in capital (+SE)	(4)		6,000

On September 2, 20B:

Note payable (-L)			50,000
Interest expense (+E → -SE)	(5)	1,500	
Cash (-A)			51,500

Computations:

- (1) Machinery: \$60,000 invoice + \$1,500 installation
- (2) Balance payable: \$60,000 invoice - \$10,000 common stock and additional paid in capital
- (3) Common stock: \$2 par value x 2,000 shares
- (4) Additional paid-in capital: (\$5 market value - \$2 par value) x 2,000 shares
- (5) Interest expense: \$50,000 x 12% x 3/12

Req 3.

Cost of the machinery includes installation costs. Freight was not included because it was paid by the vendor. The \$1,500 interest is not a part of the cost of the machinery—it must be recorded as an interest expense because it is a cost of financing. Common stock is valued at \$5 per share—for accounting purposes, this amount is allocated between the common stock account for the par value (\$2 per share) and the additional paid-in capital account for the remaining value (\$3 per share in excess of par value).

AP8-3.

Req. 1

	Building	Accum. Deprec.	Deprec. Expense	Repairs Expense	Cash
Balance 1/1/20G	\$230,000	\$57,500			
Depreciation through June 30		5,750	(1) 5,750		NE
Balance prior to expenditures	230,000	63,250	5,750		
a.	NE	NE	NE	+5,000	-5,000
b.	17,000	NE	NE	NE	-17,000
c.	70,000	NE	NE	NE	-70,000
Depreciation July - Dec. 31:					
Existing building		5,750	(1) 5,750	NE	NE
Repairs and addition		3,000	(2) 3,000	NE	NE
Balance 12/31/20G	\$317,000	\$72,000	\$14,500	\$5,000	

- (1) \$230,000 cost ÷ 20 years = \$11,500 per year x 1/2 year = \$5,750.
- (2) \$87,000 cost ÷ 14.5 remaining years = \$6,000 x 1/2 year = \$3,000.

At the start of 20G, the old building had a remaining useful life of 15 years. The new items were recorded on June 30, 20G; therefore, they must be depreciated over 14.5 years remaining useful life.

Req. 2

Book Value of Building:	
Building (\$230,000 + \$17,000 + \$70,000)	\$317,000
Less: Accumulated depreciation (\$57,500 + \$14,500)	72,000
Carrying (book) value	<u>\$245,000</u>

Req. 3

Depreciation is a noncash expense. Unlike most expenses, no cash payment is made when the expense is recognized. The cash outflow occurred when the related asset was acquired. For companies selecting the indirect method of preparing a statement of cash flows (reconciling net income on the accrual basis to cash from operations), depreciation expense is added back to net income because the expense reduces net income, yet is not a cash outlay.

AP8-4.

Req. 1

Apportionment of purchase price plus transportation costs (\$62,000 + \$3,000 = \$65,000):

Machine	Appraised Value		Apportionment of Lump-Sum Cost	
	Amount	Ratio	Computations	Apportioned Cost
A	\$11,500	.16	\$65,000 x .16	\$10,400
B	\$32,000	.44	\$65,000 x .44	28,600
C	\$28,500	.40	\$65,000 x .40	26,000
Total	<u>\$72,000</u>	<u>1.00</u>		<u>\$65,000</u>

The appraised values were used for apportionment because they are the best data available that reflect the relative relationship of market values to total purchase cost for the three machines.

Cost of each machine:

	Machine			Total
	A	B	C	
Apportioned purchase price + transportation cost (from above)	\$10,400	\$28,600	\$26,000	\$65,000
Installation costs	800	1,100	1,100	3,000
Renovation costs	600	1,400	1,600	3,600
Total cost	<u>\$11,800</u>	<u>\$31,100</u>	<u>\$28,700</u>	<u>\$71,600</u>

Req. 2

Computation of annual depreciation for each machine:

Machine	Method	Computation
A	Straight-line	(\$11,800 - 1,000) ÷ 1/4 years = <u>\$2,700</u>
B	Units-of-production	(\$31,100 - 2,000) ÷ 35,000 hours = \$.83 \$.83 x 7,000 hours = <u>\$5,810</u>
C	200% declining balance	(\$28,700 - 0) x 2/5 years = <u>\$11,480</u>

Depreciation expense (\$2,700 + \$5,810 + \$11,480) (E)	19,990
Accumulated depreciation, Machine A (XA)	2,700
Accumulated depreciation, Machine B (XB)	5,810
Accumulated depreciation, Machine C (XC)	11,480

AP8-5.

Req. 1

Depreciation expense of \$8,510 recorded in 1999 is inferred from the activities affecting the Accumulated Depreciation account:

Accumulated Depreciation		
	79,891	Beg. bal.
Asset sales	0	
	8,510	Deprec. Exp.
	<u>88,401</u>	End. bal.

Req. 2

Recording depreciation at the end of the period increases expenses (and thus decreases net income and stockholders' equity) and decreases the net book value of the property and equipment accounts. Failing to record depreciation creates the opposite effects.

Ratio	Computation	Effect on Ratio of Failing to Record Depreciation Expense
Earnings per share	$\frac{\text{Net income}}{\text{Number of shares of stock outstanding}}$	Net income will be overstated with no change in the denominator → Overstated
Fixed asset turnover	$\frac{\text{Sales}}{\text{Average net fixed asset balance}}$	Numerator does not change; however, the denominator is overstated → Understated
Assets to equity	$\frac{\text{Total assets}}{\text{Total stockholders' equity}}$	Both assets and stockholders' equity are overstated by the same amount; however, because assets are normally greater than stockholders' equity → Understated
Return on equity	$\frac{\text{Net income}}{\text{Average stockholders' equity}}$	Net income is overstated and so is stockholders' equity, although at a lower amount due to averaging → Overstated

Net effect on cash flows from financing activities: \$ 0

AP8-6.

Req. 1

Original cost	\$107,000
Residual value	<u>11,000</u>
Amount to be depreciated	<u>\$96,000</u>

Depreciation per year, $\$96,000 \div 6 \text{ years} = \$16,000$
Age at January 1, 20C: $\$64,000 \div \$16,000 = 4 \text{ years}$.

Req. 2

When the machine was sold on July 1, 20C, two entries were necessary:

- Record depreciation expense up to July 1, 20C. The amount that needs to be recorded is \$8,000 (increase Depreciation Expense and increase Accumulated Depreciation). $[(\$107,000 \text{ cost} - 11,000 \text{ residual value}) \div 6 \text{ years} \times 6/12 \text{ of a year}]$
- Record the disposal of the machine on July 1, 20C. The reduction in the Machine (\$107,000 cost) and related Accumulated Depreciation (\$72,000) accounts must be recorded, as well as the receipt of cash (\$38,000), and any gain or loss on disposal (Net book value – cash received = \$3,000).

Effect on Total Assets:

Additional accumulated depreciation	– \$ 8,000
Cash	+ 38,000
Machine (net) (\$107,000 cost – 72,000 accumulated depreciation)	– 35,000
Net effect on total assets	<u>– \$ 5,000</u>

Effect on Net Income:

Additional depreciation expense	– \$ 8,000
Gain on disposal of machine	+ 3,000
Net effect on net income	<u>– \$ 5,000</u>

Effect on Cash Flows:

Operating activities:	
Net income (as above)	– \$ 5,000
Add: Additional depreciation expense	+ 8,000
Subtract: Gain on disposal of machine	– 3,000
Net effect on cash flows from operating activities:	<u>\$ 0</u>

Investing activities:

Cash received from disposal of machine	+ \$38,000
Net effect on cash flows from investing activities:	<u>+ \$38,000</u>

Financing activities:

AP8-7.

Req. 1

Machine A - Jan. 1, 20A:

(a) Depreciation expense in 20A - none recorded because disposal date was Jan. 1, 20A.

(b) To record disposal:

Cash (+A).....	5,750	
Accumulated depreciation, machine A (–XA→+A).....	17,600	
Loss on disposal of machine (+E→–SE).....	650	
Machine A (–A).....		24,000

Machine B - July 1, 20A:

(a) To record depreciation expense for Jan. through June, 20A:

Depreciation expense (+E→–SE).....	575	
Accumulated depreciation, machine B (+XA→–A).....		575
$(\$16,500 - \$5,000) \div 10 \text{ years} \times 6/12 = \575 .		

(b) To record disposal:

Cash (+A).....	4,000	
Note receivable (+A).....	5,000	
Accumulated depreciation, machine B (\$8,050 + \$575) (–XA→+A).....	8,625	
Machine B (–A).....		16,500
Gain on disposal of machine (+R→+SE).....		1,125

Machine C - October 2, 20A:

(a) Depreciation expense for Jan. through September, 20A:

Depreciation expense (+E→–SE).....	3,000	
Accumulated depreciation, machine C (+XA→–A).....		3,000
$(\$59,200 - \$3,200) \div 14 \text{ years} \times 9/12 = \$3,000$.		

(b) To record disposal:

Cash (+A).....	12,000	
Accumulated depreciation, machine C (\$48,000 + \$3,000) (–XA→+A).....	51,000	
Machine C (–A).....		59,200
Gain on disposal of machine (+R→+SE).....		3,800

AP8-7. (continued)

Req 2.

Machine A - Jan. 1, 20A: Disposal of a long-lived asset with the price below net book value, resulting in a loss.

Machine B - July 1, 20A: Disposal of a long-lived asset with the price above net book value, resulting in a gain.

Machine C - October 2, 20A: Disposal of a long-lived asset with the price (equal to the insurance proceeds) above net book value, resulting in a gain.

AP8-8.

Req. 1

Date	Assets	Liabilities	Stockholders' Equity
Jan. 1	Machine A +8,000 Machine B +8,000 Cash -16,000		
July 1	License +7,200 Cash -7,200		
July 1	Assets ⁽¹⁾ +115,000 <small>(of company purchased - not detailed)</small> Goodwill +29,000 Cash -120,000	Liabilities +24,000 <small>(of company purchased - not detailed)</small>	
July 1	Accumulated depreciation, machine A ⁽²⁾ -6,250		Depreciation expense -6,250
	Cash +10,500 Machine A ⁽³⁾ -29,500 Accumulated depreciation, machine A ⁽⁴⁾ +19,750		Gain on disposal of long-lived asset ⁽⁵⁾ +750
Oct. 1	Leasehold improvement +7,800 Cash -7,800		
20D	Cash -6,700		Repair and maintenance expense -6,700

AP8-8. (continued)

Req. 1 (continued)

Computations for Acquisition:

(1) Purchase price	\$120,000
Less: Goodwill	29,000
Market value of net assets.....	91,000
Add: Market value of liabilities	24,000
Market value of assets.....	<u>\$115,000</u>

Computations for Machine A:

(2) Cost	\$21,500
Add: Reconditioning	8,000
Total	\$29,500
Less: depreciation to Jan. 1, 20D (given)	13,500
Residual value	3,500
Remaining cost to depreciate	<u>\$12,500</u>

Computation of estimated life:

\$13,500/3 years = \$4,500 depreciation per year
 (\$21,500 - 3,500) / \$4,500 = 4 year estimated life
 Depreciation expense (Jan. 1 - July 1): \$12,500 x 6/12 = \$6,250.

(3) Cost	\$21,500
Add: Reconditioning	8,000
Total cost	<u>\$29,500</u>
(4) Accumulated depreciation to Jan. 1, 20D	\$13,500
Add: Depreciation expense (Jan. 1 - July 1) (above).....	6,250
Total accumulated depreciation	<u>\$19,750</u>

(5) Loss on disposal of long-lived asset:	
Cash proceeds of disposition.....	\$10,500
Net book value of Machine A (\$29,500 - \$19,750)	9,750
Gain on disposal of long-lived asset.....	<u>\$ 750</u>

AP8-8. (continued)

Req. 2 December 31, 20D Depreciation

Machine A: \$ 0
 Machine A was sold on July 1, 20D. No additional depreciation is necessary.

<u>Machine B:</u>	7,400
Cost	\$18,000
Add: Reconditioning	8,000
Total	\$26,000
Less: depreciation to Jan. 1, 20D (given)	10,200
Residual value	1,000
Remaining cost to depreciate	<u>\$14,800</u>

Computation of estimated life:
 \$10,200/3 years = \$3,400 depreciation per year
 (\$18,000 - 1,000) / \$3,400 = 5 year estimated life
 \$14,800 remaining depreciable cost ÷ 2 years remaining life = \$7,400.

License: \$7,200 ÷ 3 years x 6/12 = \$1,200. 1,200

Goodwill: \$29,000 ÷ 20 years x 6/12 = \$725. 725

Leasehold improvements: 600

Depreciate over shorter of: (a) remaining lease term or (b) life of the asset.

Remaining lease term, Oct 1, 20D - Dec 31, 20G (39 months).

Life of asset, 5 years (60 months).

Depreciation for 20D: 3/39 x \$7,800 = \$600.

Total depreciation expense to be recorded on Dec 31, 20D \$9,925

AP8-9.

Req. 1

- a. Patent amortization for one year, $\$18,600 \div 15 \text{ years} = \$1,240$.
- b. Copyright amortization for one year, $\$24,750 \div 15 \text{ years} = \$1,650$.
- c. Franchise amortization for one year, $\$19,200 \div 12 \text{ years} = \$1,600$.
- d. License amortization for one year, $\$21,000 \div 7 \text{ years} = \$3,000$.
- e. Goodwill amortization for one year, based on maximum 20-year amortization period: $\$75,000 \div 20 \text{ years} = \$3,750$.

Req. 2

Item	Date Acquired	Book Value Computations	Book Value Jan. 1, 20F
a. Patent	Jan. 1, 20C	$\$18,600 - (\$1,240 \times 3)$	\$ 14,880
b. Copyright	Jan. 1, 20C	$\$24,750 - (\$1,650 \times 3)$	\$ 19,800
c. Franchise	Jan. 1, 20C	$\$19,200 - (\$1,600 \times 3)$	\$ 14,400
d. License	Jan. 1, 20B	$\$21,000 - (\$3,000 \times 4)$	\$ 9,000
e. Goodwill	Jan. 1, 20A	$\$75,000 - (\$3,750 \times 5)$	\$ 56,250
Total book value			<u>\$114,330</u>

Req. 3

Franchise, book value at January 1, 20F	\$14,400
Expected future cash flows	14,500
Impairment loss to be recorded, January 2, 20F	\$ 0

Since the expected future cash flows from the franchise exceed its book value, no impairment loss needs to be recorded.

CASES AND PROJECTS

FINANCIAL REPORTING AND ANALYSIS CASES

CP8-1.

1. The company uses the straight-line method of depreciation. This is disclosed in the "fixed assets" portion of the "significant accounting policies" note.
2. Accumulated depreciation and amortization was \$29,933,000. This is disclosed on the balance sheet.
3. Fixtures and equipment have estimated useful lives of between 3 and 10 years. This is disclosed in the "fixed assets" portion of the "significant accounting policies" note.
4. The original cost of the leasehold improvements was \$46,996,000. This is disclosed on the balance sheet.
5. Depreciation and amortization expense was \$8,611,000. This is disclosed on the statement of cash flows, as well as in the "fixed assets" portion of the "significant accounting policies" note.
6. Fixed asset turnover ratio = Net sales $\$587,600,000 \div [(\$38,547,000 \text{ beginning net fixed assets} + \$53,370,000 \text{ ending net fixed assets}) \div 2] = 12.8$. Net sales is disclosed on the statement of operations and net fixed assets is disclosed on the balance sheet. This ratio measures how efficiently American Eagle utilizes its investment in property, plant, and equipment over time.
7. The impairment loss on fixed assets for the current fiscal year was \$0.2 million. This is disclosed in the "impairment of assets" note in the annual report. An additional \$1,267,000 of fixed assets were written off (\$1,467,000 loss on impairment and write-off of fixed assets, disclosed on the statement of cash flows, less \$200,000 pertaining to the impairment of assets). These amounts were noncash expenses, and, as such, are added back to net income on the statement of cash flows.
8. As noted above.

CP8-2.

Req. 1

	dELiA*s	American Eagle
Net fixed assets	\$ 12,542 = 0.153	\$ 53,370 = 0.253
Total assets	82,144	210,948

The percentages differ between the two companies because of the companies' selected strategies. American Eagle operates primarily through retail stores in regional enclosed shopping malls and therefore requires a higher level of fixed assets than does dELiA*s, which operates primarily through its catalogs.

Req. 2

	dELiA*s	American Eagle
Accumulated depreciation	\$ 3,191 = 0.203	\$ 29,933 = 0.359
Fixed assets (at cost)	15,733	83,303

The percentages differ between the two companies possibly because of the companies' relative ages. American Eagle has been in operation (at least as a public company) for longer than dELiA*s.

Req. 3

	dELiA*s	American Eagle
Net sales	\$158,364 = 16.9	\$587,600 = 12.8
Average net fixed assets	9,382	45,959

dELiA*s has a higher fixed asset efficiency. The efficiency differs between the two companies because of the companies' selected strategies. American Eagle operates primarily through retail stores in regional enclosed shopping malls and therefore requires a higher level of fixed assets for each \$1 of sales than does dELiA*s, which operates primarily through its catalogs.

Req. 4

dELiA*s ratios will likely decrease over time as competition increases—as a result, its sales per \$1 of fixed asset will likely decrease. It also is expanding into retail stores. This is already visible in its financial statements—assuming no changes in fiscal 1999, its fixed asset turnover ratios will drop to 12.6, or about the same level of turnover as American Eagle. American Eagle's ratios will likely increase or remain stable over time as it hopes to take advantage of increased catalog sales and internet e-commerce.

CP8-3.

More than three competitors are listed in each of the following industries. Examples include:

Industry	Company name (Symbol, if available)
1. Airline	Delta Air Lines, Inc. (DAL) Great Lakes Aviation, Ltd. (GLUX) Tower Air, Inc. (TOWR)
2. Hotels & Motels	Club Med, Inc. Hilton Hotels Corp. (HLT) Prime Motor Inns L.P. (PMPI)
3. Footwear	L.A. Gear, Inc. Saucony, Inc. (SCNYA) The Timberland Company (TBL)
4. Computer Hardware	Apple Computer, Inc. (AAPL) Cray Research, Inc. Sun Microsystems, Inc. (SUNW)

CP8-4.

Req. 1

A "big bath" describes taking a large number of write-offs (usually in a year with low net income to begin with). While large write-offs drastically lower income for that year, they also artificially improve income in later years—for example, a fixed asset that is written down in one year has a lower depreciation expense charged to income in future years.

Req. 2

Company	Write-down
America Online WorldCom Inc. Lucent Technologies, Inc. <small>(Also mentioned: Compaq Computer Corp)</small>	Write-off of in-process R&D
Motorola Lucent Technologies, Inc. Eastman Kodak, Co. <small>(Also mentioned: Kellogg, AT&T, General Motors)</small>	Restructuring charges & write-offs
McDonald's Corp.	Ongoing operating costs charged as one-time extraordinary cost

Note that the concept of the "big bath" is different from incidences of fraud. Cendant Corp. is mentioned in the article as an example of fraud.

CP8-5.

Req. 1

Depreciable assets:	
Buildings.....	\$ 298,450
Machinery and Equipment.....	<u>928,151</u>
Total.....	\$1,226,601
+ Depreciation expense.....	<u>+ 99,234</u>
Estimated useful life	<u>12.4 years</u>

Req. 2

Accumulated depreciation.....	\$ 468,511
Depreciation expense.....	<u>+ 99,234</u>
	<u>4.7 years</u>

At best, these are very rough estimates but they are probably the best that can be made as an analyst. Some prefer to use an average of several years which is an acceptable alternative.

CP8-6.

Req. 1

The use of a depreciation percentage may appear to be a new method that was not discussed in the chapter. In fact, it is just another way of expressing an expected life. The expected lives of buildings and improvements is 10 years (1/10 or 10%) to 50 years (1/50 or 2%).

Req. 2

The depreciation of containers must relate to reusable containers. Many states now require deposits on glass containers that are then reused by the bottling company. The high depreciation rate of 34% suggests a fairly brief expected life for these items.

CP8-7.

Req. 1

The estimated useful life of the property, plant, and equipment at the end of the current year was 14 years, estimated as follows:

Assuming Seagram uses the straight-line method and no residual value:
 Cost – accumulated depreciation = net book value
 Cost – \$1,178 million = \$2,733 million
 Cost = \$3,911 million
 \$3,911 million cost ÷ \$289 million depreciation expense = 14 years.

Therefore, the approximate age of the property on that date was 4 years.
 \$1,178 accumulated depreciation ÷ \$3,911 million cost = 30.1% used
 30.1% x 14 years = approximately 4 years old.

Req. 2

Current year fixed asset turnover ratio:

$$\text{Sales} \div [(\text{Beginning net fixed assets} + \text{Ending net fixed assets}) \div 2] = \$9,714 \div [(\$2,559 + \$2,733) \div 2] = 3.7 \text{ times}$$

This ratio is a measure of a company's efficiency in utilizing fixed assets to generate revenues. To evaluate Seagram's ratio, it should be compared to ratios in previous years and also to other companies in the industry.

Req. 3

The cost of the property, plant, and equipment at the end of the current year is \$3,911 million computed as follows:

$$\text{Cost} - \text{accumulated depreciation} = \text{Net book value}$$

$$? - \$1,178 \text{ million (from the notes)} = \$2,733 \text{ million (from the balance sheet)}$$

$$\text{Cost} = \underline{\$3,911 \text{ million}}$$

Req. 4

Seagram reported \$3,076 million as the excess of cost over fair value of assets acquired. This is also called goodwill and represents the amount Seagram paid above fair market value for the net assets of another company Seagram purchased.

Seagram amortizes goodwill over 40 years, the maximum allowable period at that time. Note that for any new purchases, the maximum allowable period of amortization is only 20 years. However, because the straight-line depreciation method results in the same amount of depreciation in each year, the best estimate of the amount to be amortized in the next year is the same as the amount amortized in the current year, \$208 million.

CP8-7. (continued)

Req. 5

The amortization and depreciation amounts, totaling \$497 million, are added to income from continuing operations because these are noncash expenses. No cash is paid when these amounts are recognized. To determine cash provided by continuing operations, all noncash expenses, losses, revenues, and gains need to be adjusted out of income accounted for on the accrual basis. Since expenses reduce accrual-based income, they need to be added to income to determine cash-based income.

CP8-8.

Consider the kinds of transactions that make PPE and Accumulated Depreciation change during a period:

(in millions)

Property, Plant, and Equipment		Accumulated Depreciation	
Beg. bal.	15,667	7,654	Beg. bal.
Acquire	2,118	1,181	Depr. Exp.
End. bal.	<u>16,774</u>	<u>8,146</u>	End. bal.

$$\text{PPE: Beg. bal., } \$15,667 + \text{Acquisitions, } \$2,118 - \text{Disposals, } ? = \$16,774$$

$$\text{Disposals} = \$ 1,011$$

Accumulated Depreciation:

$$\text{Beg. bal., } \$7,654 + \text{Depreciation expense, } \$1,181 - \text{Disposals, } ? = \$8,146$$

$$\text{Disposals} = \$ 689$$

Since there was no gain or loss on disposal, the property was sold at book value. Therefore, the cash proceeds to Eastman Kodak were \$322 million (\$1,011 cost less \$689 accumulated depreciation on the disposed assets).

CP8-9.

Under the cost principle in this country, assets are recorded at cost. The rule in England is similar with the exception that professional appraisal is permitted.

Freehold land is sold to an owner and is not subject to depreciation (which is similar to U.S. accounting rules). Much of the land in England is owned by royalty and leased to the users for long periods. Because title to the land is not transferred, any costs associated with the land must be allocated over the life of the lease (this is probably best thought of as a difference in business practice instead of an accounting difference).

A striking difference is the length of estimated lives. Few companies in the U.S. would depreciate an industrial building over a 100 year life.

CRITICAL THINKING CASES

CP8-10.

Req. 1

The interest coverage ratio is a measure of the ability of a company to meet its obligatory interest payments from current operations. A company with a large coverage ratio has a greater ability to meet its interest obligations than a company with a small ratio (other things being equal).

Req. 2

Amerada Hess did not include the capitalized interest in their reported interest expense. Instead this amount was included in an asset account and will be included in depreciation expense over the life of the asset.

Most analysts include interest expense and capitalized interest when calculating the coverage ratio. Interest must be paid to the creditor whether it is listed as an expense or capitalized. This case is a good example of why users of financial statements must understand accounting and where to find information in the statements.

CP8-11.

Req. 1

Ford asserts in its note that changes have been made in design and maintenance of its equipment which cause it to give up its value at an even rate over its life. Under these circumstances, straight-line is viewed by management as the preferable method. It is unlikely that management made this change without considering its impact on reported earnings—the change is expected to improve 1993 after-tax earnings from \$80 to \$100 million.

Req. 2

The consistency principle prevents management from changing accounting methods on an arbitrary basis to manipulate income, but it does not prevent nor require use of a different method when there is a change in circumstance. Some analysts believe that managers are more likely to change to an income maximizing method during bad economic times. It is interesting to note that Ford lost \$2.3 billion in 1991 and \$7.6 billion in 1992. However, most analysts would consider the impact of this change in method to be immaterial in the context of a \$7.6 billion loss.

CP8-11. (continued)

Req. 3

It is unclear who was affected by the change. As noted above, most analysts would consider the impact of this change in method to be immaterial in the context of Ford's losses. As discussed further below, no direct change is expected in cash flows as a result of the change in depreciation policy and most investors are expected to realize that the increase in earnings is a result of an accounting change, not a change in ongoing operations. Investors who did not realize this may be harmed relative to other investors. Ford's management, on the other hand, may benefit from the change if bonuses are based on reported income.

Req. 4

There is no reason to believe that this change will have any direct impact on cash flows. The change will affect only financial reporting and not tax accounting. If a change were made in the method used for tax reporting, there would be an impact on the taxes that Ford pays. Any change in method that affects income may have an indirect impact on cash flows. For example, if Ford paid cash bonuses to executives based on reported income, this change would have an impact on cash flows.

Req. 5

Most investors assess the "quality of earnings." High quality earnings are generated by ongoing profit-making activities and either are available or will be available in cash. The increase in earnings is attributable to an accounting change, not ongoing operations, and it does not affect cash flows. Most investors would not react as favorably to earnings generated from an accounting change as they would to an increase caused by selling more cars or reducing production costs.

FINANCIAL REPORTING AND ANALYSIS PROJECTS

CP8-12 through CP8-14. Due to the nature of these projects, responses will vary.

Chapter 9

Reporting and Interpreting Liabilities

ANSWERS TO QUESTIONS

- Liabilities are obligations that result from transactions that require future payment of assets or the future performance of services, that are definite in amount or are subject to reasonable estimation. A liability usually has a definite payment date known as the maturity or due date. A current liability is a short-term liability; that is, one that will be paid during the coming year or the current operating cycle of the business, whichever is longer. It is assumed that the current liability will be paid out of current assets. All other liabilities are defined as long-term liabilities.
- External parties have difficulty determining the amount of liabilities of a business in the absence of a balance sheet. Therefore, about the only sources available to external parties for determining the number, type, and amounts of liabilities of a business are the published financial statements. These statements have more credibility when they have been audited by an independent CPA.
- A liability is measured at acquisition at its current cash equivalent amount. Conceptually, this amount is the present value of all of the future payments of principal and interest. For a short-term liability the current cash equivalent usually is the same as the maturity amount. The current cash equivalent amount for an interest-bearing liability at the going rate of interest is the same as the maturity value. For a long-term liability, the current cash equivalent amount will be less than the maturity amount: (1) if there is no stated rate of interest, or (2) if the stated rate of interest is less than the going rate of interest.
- Most debts specify a definite amount that is due at a specified date in the future. However, there are situations where it is known that an obligation or liability exists although the exact amount is unknown. Liabilities that are known to exist but the exact amount is not yet known must be recorded in the accounts and reported in the financial statements at an estimated amount. Examples of a known obligation of an estimated amount are estimated income tax at the end of the year, property taxes at the end of the year, and obligations under warranty contracts for merchandise sold.

- Working capital is computed as total current assets minus total current liabilities. It is the amount of current assets that would remain if all current liabilities were paid, assuming no loss or gain on liquidation of those assets.
- The current ratio is the percentage relationship of current assets to current liabilities. It is computed by dividing current assets by current liabilities. For example, assuming current assets of \$200,000 and current liabilities of \$100,000, the current ratio would be $\$200,000/\$100,000 = 2.0$ (for each dollar of current liabilities there are two dollars of current assets). The current ratio is influenced by the amount of current liabilities. Therefore, it is particularly important that liabilities be considered carefully before classifying them as current versus long term. The shifting of a liability from one of these categories to the other often may affect the current ratio significantly. This ratio is used by creditors because it is an important index of ability to meet short-term obligations. Thus, the proper classification of liabilities is particularly significant.
- An accrued liability is an expense that was incurred before the end of the current period but has not been paid or recorded. Therefore, an accrued liability is recognized when such a transaction is recorded. A typical example is wages earned during the last few days of the accounting period but not recorded because no payroll was prepared and paid that included these wages. Assuming wages of \$2,000 were incurred, the adjusting entry to record the accrued liability and the wage expense would be as follows:

December 31:		
Wage expense (E).....	2,000	
Wages payable (L)		2,000

- A deferred revenue (usually called unearned revenue or revenue collected in advance) is a revenue that has been collected in advance of being earned and recorded in the accounts by the entity. Because the amount already has been collected and the goods or services have not been provided, there is a liability to provide goods or services to the party who made the payment in advance. A typical example is the collection of rent on December 15 for one full month to January 15 when the accounting period ends on December 31. At the date of the collection of the rent the following entry usually is made:
- | | | |
|------------------------|-------|-------|
| December 15: | | |
| Cash (A)..... | 4,000 | |
| Rent revenue (R) | | 4,000 |
- On the last day of the period, the following adjusting entry should be made to recognize the deferred revenue as a liability:
- | | | |
|---|-------|-------|
| December 31: | | |
| Rent revenue (R)..... | 2,000 | |
| Deferred rent revenue (or Rent revenue collected in advance) (L)..... | | 2,000 |
- The deferred rent revenue (credit) is reported as a liability on the balance sheet because two weeks' occupancy is owed in the next period for which the lessee already has made payment.
- A note payable is a written promise to pay a stated sum at one or more specified dates in the future. A secured note payable is one which has attached to it (or coupled with it) a mortgage document which commits specified assets as collateral to guarantee payment of the note when due. An unsecured note is one that does not have specific assets pledged, or committed, to its payment at maturity. A secured note carries less risk for the note holder (creditor).
 - An interest-bearing note is a note on which a stated rate of interest is specified to be paid at stated periods of time, or at the maturity of the note. For example, a one-year, \$1,000, 15% interest-bearing note would require the payment of \$1,000 plus 15%, or \$150, at the maturity date. A non-interest-bearing note is a note that does not specify a stated rate of interest on the note. The implicit interest amount is included in the face amount of the note. For example, a \$1,000 non-interest-bearing note would be paid off at maturity with \$1,000 cash. When cash is borrowed on a non-interest-bearing note, the maker of the note (borrower) receives the maturity amount (\$1,000 in the above example) less the amount of implicit interest that is charged (\$150); that is, \$850 in cash.

11. Deferred income tax usually is reported on the balance sheet as a liability because deferred tax represents an amount of income tax that will have to be paid at some date in the future. Deferred tax arises because there are either revenues or expenses that are subject to income tax but that appear on the income statement in one year and, because of the requirements of the tax laws, appear on the income tax return another year. In computing income tax expense reported on the income statement such items are included in the year in which they should be reported on the income statement. In contrast, in preparing the income tax return and computing income tax payable for each period, these items appear on the income tax return in conformity with the requirements of the tax laws. Because of the lag (either forward or backward) between the appearance of the item on the income statement as compared with the income tax return, there is an element of deferred tax that must be recorded in the accounts and reported. Although deferred tax may be a debit (a deferred charge), it usually is a liability (a credit).
12. A contingent liability is not an effective liability; rather it is a potential future liability. A contingent liability arises because of some transaction or event that has already occurred which may, depending upon one or more future events, cause the creation of a true liability. A typical example is a lawsuit for damages. An accident occurred. Whether the defendant has a liability depends upon the ultimate decision of the court. Pending that decision there is a contingent liability (and a contingent loss). This contingency must be recorded and reported (debit, loss; credit, liability) if it is "probable" that the decision will require the payment of damages that can be reasonably estimated. If it is only "reasonably possible" that a loss will be incurred, only footnote disclosure is required.
13. $\$4,000 \times 12\% \times 9/12 = \360 .
14. The time value of money is another way to describe interest. Time value of money refers to the fact that a dollar received today is worth more than a dollar to be received at any later date because of interest.
15. Future value—The future value of a number of dollars is the amount that it will increase to in the future at i interest rate for n periods. The future value is the principal plus accumulated interest compounded each period.
- Present value—The present value of a number of dollars, to be received at some specified date in the future, is that amount discounted to the present at i interest rate for n periods. It is the inverse of future value. In compound discounting, the interest is subtracted rather than added as in compounding.
16. $\$10,000 \times 2.5937$ (PV Table, $i=10\%$; $n=10$) = $\$25,937$ (a 259% increase).
17. $\$8,000 \times .3855$ (PV Table, $i=10\%$; $n=10$) = $\$3,084$.

18. An annuity is a term that refers to equal periodic cash payments or receipts of an equal amount each period for two or more periods. In contrast to a future value of \$1, or a present value of \$1 (which involves a single contribution or amount), an annuity involves a series of equal contributions for a series of equal periods. An annuity may refer to a future value or a present value.
- 19.
- | Concept | Symbol | Table Values | | |
|----------------------|--------|------------------|-------------------|--------------------|
| | | $n = 4; i = 5\%$ | $n = 7; i = 10\%$ | $n = 10; i = 14\%$ |
| FV of \$1 | f | 1.2155 | 1.9487 | 3.7072 |
| PV of \$1 | p | .8227 | .5132 | .2697 |
| FV of annuity of \$1 | F | 4.3101 | 9.4872 | 19.3373 |
| PV of annuity of \$1 | P | 3.5460 | 4.8684 | 5.2161 |
20. $\$1,000 \times F_{i=8\%, n=10}$ (PV Table, 14.4866) = $\$14,487$.
21. $(\$18,000 - \$3,000 = \$15,000) \div P_{i=6\%, n=6}$ (PV Table, 4.9173) = $\$3,050$.

Authors' Recommended Solution Time
(Time in minutes)

Mini-exercises		Exercises		Problems		Alternate Problems		Cases and Projects	
No.	Time	No.	Time	No.	Time	No.	Time	No.	Time
1	5	1	30	1	50	A1	60	1	30
2	5	2	30	2	45	A2	40	2	30
3	5	3	30	3	30	A3	40	3	30
4	5	4	30	4	25	A4	30	4	20
5	5	5	20	5	45	A5	45	5	20
6	5	6	20	6	30	A6	30	6	45
7	5	7	30	7	40	A7	35	7	20
8	5	8	30	8	40	A8	35	8	30
9	10	9	40	9	40	A9	45	9	25
10	10	10	20	10	45			10	25
11	5	11	20	11	40			11	25
		12	15					12	*
		13	20					13	*
		14	20					14	*
		15	30					15	*
		16	20					16	*
		17	20					17	*
		18	20					18	*
		19	20						*

* Due to the nature of these cases and projects, it is very difficult to estimate the amount of time students will need to complete the assignment. As with any open-ended project, it is possible for students to devote a large amount of time to these assignments. While students often benefit from the extra effort, we find that some become frustrated by the perceived difficulty of the task. You can reduce student frustration and anxiety by making your expectations clear. For example, when our goal is to sharpen research skills, we devote class time discussing research strategies. When we want the students to focus on a real accounting issue, we offer suggestions about possible companies or industries.

MINI-EXERCISES

- M9-1.**
- 20A** $\$500,000 \times .09 \times 1/12 = \$3,750$
- 20B** $\$500,000 \times .09 \times 2/12 = \$7,500$

M9-2.

November 1, 20A:

Cash (A).....	100,000	
Note payable (L).....		100,000

December 31, 20A:

Interest Expense (E).....	2,000	
Interest Payable (L).....		2,000

- M9-3.**
- Computed from Balance Sheet data
 - Balance Sheet
 - Notes to the statements
 - Not reported but can be computed from balance sheet and income statement data.
 - Statement of Cash Flows

M9-4. Current Ratio: $\$100,000 / \$40,000 = 2.5$
Working Capital: $\$100,000 - \$40,000 = \$60,000$

M9-5.

Current Ratio	Working Capital
a. Increase	Remain the same
b. Decrease	Decrease
c. Decrease	Remain the same
d. Decrease	Remain the same

M9-6.

- 20A** Buzz does not have to record or disclose the liability because the chance of the liability occurring is remote.
- 20B** Buzz does not have to record or disclose the liability because the chance of the liability occurring is remote.
- 20C** Buzz must disclose the liability in a note because the liability is remotely possible.
- 20D** Buzz must disclose the liability since the existence of a liability is remotely possible.
- 20E** Buzz must now record the loss and the liability because the out of court settlement made the \$150,000 loss probable.

M9-7.

$\$500,000 \times P_{n=10,i=8\%} (0.4632)$	=	\$231,600
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M9-8.

$\$15,000 \times P_{n=10,i=10\%} (6.1446)$	=	\$92,169
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M9-9.

\$100,000	=	\$100,000
+ $\$100,000 \times P_{n=1,i=8\%} (0.9259)$	=	\$92,590
+ $\$30,000 \times P_{n=20,i=8\%} (9.8181)$	=	\$294,543
Total	=	\$487,133

M9-10.

$\$25,000 \times F_{n=10,i=10\%} (15.9374)$	=	\$398,435
$\$15,000 \times F_{n=20,i=10\%} (57.2750)$	=	\$859,125

It is much better to save \$15,000 for 20 years.

M9-11.

\$500,000	=	X [(F _{n=20,i=10%}) (57.2750)]
\$8,730	=	X

EXERCISES

E9-1.

Req. 1

Total assets (\$170,100 + \$525,000)	.....	\$695,100
Total liabilities (\$18,000 + \$60,000 + \$12,000 + \$3,000 + \$4,000 + \$100,000 + \$7,800 + \$2,000 + \$10,000 + \$400)	.....	(217,200)
Total owners' equity	.....	\$477,900

Req. 2

(a) Current assets	.....	\$170,100
Current liabilities:		
Accounts payable	.....	\$60,000
Income taxes payable	.....	12,000
Liability for withholding taxes	.....	3,000
Rent revenue collected in advance	.....	4,000
Wages payable	.....	7,800
Property taxes payable	.....	2,000
Note payable, 10% (due in 6 months)	.....	10,000
Interest payable	.....	400
Working capital	.....	\$ 70,900

(b) Current ratio: $(\$170,100 \div \$99,200) = 1.71$.

Working capital is critical for the efficient operation of a business. Current assets include cash and assets that will be collected in cash within one year or the normal operating cycle of the company. A business with insufficient working capital may not be able to pay its short-term creditors on a timely basis.

The current ratio is a measure of liquidity. It helps analysts assess a company's ability to meet its short-term obligations.

Req. 3

$\$18,000 \times 8\% \times 3/12 = \360 interest expense for 20B.

E9-2.

Req. 1

November 1, 20A:

Cash (A)	.....	4,500,000	
Note payable (L)	.....		4,500,000

Borrowed on 6-month, 10%, note payable.

Req. 2

December 31, 20A (end of the accounting period):

Interest expense (E)	.....	75,000	
Interest payable (L)	.....		75,000

Adjusting entry for 2 months' accrued interest
($\$4,500,000 \times 10\% \times 2/12 = \$75,000$).

Req. 3

April 30, 20B (maturity date):

Assuming no reversing entry was made on January 1, 20B:

Note payable (L)	.....	4,500,000	
Interest payable (per above) (L)	.....	75,000	
Interest expense ($\$4,500,000 \times 10\% \times 4/12$) (E)	.....	150,000	
Cash (A)	.....		4,725,000

Paid note plus interest at maturity.

Req. 4

It is doubtful that long-term borrowing would be appropriate in this situation. After the Christmas season, Dayton Hudson will collect cash from its credit sales. At this point, it does not need borrowed funds. It would be costly to pay interest on a loan that was not needed. It might be possible to borrow for a longer term at a lower interest rate and invest idle cash to offset the interest charges. Dayton Hudson should explore this possibility with its bank but in most cases it would be better to borrow on a short-term basis to meet short-term needs.

E9-3.

Req. 1

Date	Assets	Liabilities	Stockholder's Equity
November 1, 20A	Cash +	Note Payable +	Not Affected
December 31, 20A	Not Affected	Interest Payable +	Interest Expense -
April 30, 20B	Cash -	Note Payable -	Interest Expense -
		Interest Payable -	

Req. 2

It is doubtful that long-term borrowing would be appropriate in this situation. After the Christmas season, Dayton Hudson will collect cash from its credit sales. At this point, it does not need borrowed funds. It would be costly to pay interest on a loan that was not needed. It might be possible to borrow for a longer term at a lower interest rate and invest idle cash to offset the interest charges. Dayton Hudson should explore this possibility with its bank but in most cases it would be better to borrow on a short term basis to meet short-term needs.

E9-4.

Req. 1

March 31, 20A:

Salary and wage expense (E)	.....	230,000	
Liability for income taxes withheld-employees (L)	.....		46,000
Liability for union dues withheld-employees (L)	.....		3,000
Liability for insurance premiums withheld-employees	.....		1,200
FICA taxes payable-employees (L)	.....		16,445
Cash (A)	.....		163,355

Payroll for March including employee deductions.

Req. 2

March 31, 20A:

Payroll tax expense (E)	.....	24,265	
FICA taxes payable-employer (L)	.....		16,445
FUTA taxes payable-employer (L)	.....		1,610
State unemployment taxes payable-employer (L)	.....		6,210

Employer payroll taxes on March payroll.

E9-4. (continued)

Req. 3

Liability for income taxes withheld-employees (L)	46,000	
Liability for union dues withheld-employees (L)	3,000	
Liability for insurance premiums withheld-employees (L)	1,200	
FICA taxes payable-employees (L)	16,445	
FICA taxes payable-employer (L)	16,445	
FUTA taxes payable-employer (L)	1,610	
State unemployment taxes payable-employer (L)	6,210	
Cash (A)		90,910

Remittance of payroll taxes and deductions for March payroll.

Req. 4

The total labor cost was \$254,265, comprised of the \$230,000 salaries and wages plus the \$24,265 payroll taxes paid by the company. The payroll taxes paid by the employees (i.e., deducted from their wages) are not expenses to the company.

The total payroll (salaries and wages) was \$230,000. The take-home pay was \$163,355 and the percent of payroll that was take-home pay was $\$163,355 \div \$230,000 = 71\%$.

Employee compensation is a large cost for most organizations. Employers are not concerned about the distinction between salaries and fringe benefits because each is a cost and each is deductible for tax purposes. Employees sometimes prefer an extra dollar in fringe benefits over an extra dollar of salary because some fringe benefits are either not taxable or are not taxable in the current period. In the absence of tax effects, most employees prefer increases in salaries because they have full control over those dollars.

E9-5.

Req. 1

The additional labor expense was \$8,872, which is the total of payroll taxes that must be paid by the employer. The \$9,500 income taxes, union dues of \$1,200, and the \$6,013 FICA taxes paid by the employees did not add to the labor cost of the employer. The total labor cost to the company was $\$82,000 + \$8,872 = \$90,872$. The employees' take-home pay was \$65,287; that is, the total of salaries and wages less the deductions paid by the employees (i.e., $\$82,000 - \$9,500 - \$1,200 - \$6,013 = \$65,287$).

E9-5. (continued)

Req. 2

Balance sheet liabilities:

Liability for income taxes withheld	\$ 9,500
Liability for union dues withheld	1,200
FICA taxes payable (\$6,013 + \$6,013)	12,026
FUTA taxes payable	589
State unemployment taxes payable	2,270
Total	<u>\$25,585</u>

Req. 3

Both managers and analysts would understand that a 10% increase in salaries is more expensive than a 10% increase in the employer's share of FICA (or any other benefit). The reason is that many benefits are stated as a percentage of salary. As a result, the cost of a 10% increase in salaries is an increase in both salaries and fringe benefits.

E9-6.

Req. 1

Date	Assets	Liabilities	Stockholders' Equity
January 10, 20B	Inventory +	Accounts Payable +	Not Affected
March 1, 20B	Cash +	Note Payable +	Not Affected

Req. 2

August 31, 20B Cash Paid: \$41,600

Req. 3

Transaction (a) has no impact on cash flows because there is neither an inflow nor an outflow of cash. Transaction (b) results in an inflow of cash from financing activities. The August 31 payment is an outflow of cash. (Note to instructor: If you have emphasized the Statement of Cash Flows, you should discuss the specific nature of these cash flows. The repayment of principal is a cash flow from financing activities and the payment of interest expense is a component of cash flows from operating activities.)

Req. 4

Assuming that the current ratio is greater than one, transaction (a) will decrease the ratio and transaction (b) will increase the ratio. This answer is not always obvious so it may be "proven" with hypothetical numbers.

E9-7.

A liability is "a probable future sacrifice of economic benefits that arises from past transactions." To be recorded, the amount of a liability must be subject to a reasonable estimate. The employees of Ford earn their retirement benefits by performing work for the company. These benefits are a form of deferred compensation and are directly related to a past transaction (exchanging work for compensation). Clearly, Ford has an economic obligation to pay for health care and life insurance in the future. It is difficult, however, to determine the exact amount of the liability for these benefits. To do so, Ford would have to know the number of employees who will actually retire, the number of years that they will live during retirement, and the cost of health care and life insurance during those retirement years. Under GAAP, it is not necessary to know the "exact" amount of a liability in order to record it. The liability must be one that can be reasonably estimated. The FASB requires companies to record liabilities for these benefits because, in their judgment, reasonable estimates can be developed. Many managers disagree with this view but, nevertheless, Ford reported this obligation as a liability on its balance sheet.

E9-8.

Req. 1

American Eagle - \$94,753,000
Urban Outfitters - \$47,527,000

Req. 2

American Eagle - none
Urban Outfitters - \$956,000 (See note 5)

Req. 3

American Eagle - none
Urban Outfitters - \$303,000 (See note 9)

Req. 4

American Eagle - none
Urban Outfitters - \$4,041,000

Req. 5

American Eagle - only related to rental payments
Urban Outfitters - only contingent liabilities related to rental payments (\$3.2 million)

Req. 6

The increase in Accounts Receivable reduces cash flow from operating activities.

E9-9.

Req. 1

- (a) Income tax payable:
20A: $\$14,000 \times 30\% = \$4,200$
20B: $\$17,400 \times 30\% = \$5,220$
- (b) Deferred income tax:
20A- $\$2,800 \times 30\% = \840 (originating, a credit)*
20B- $\$2,800 \times 30\% = \840 (reversing, a debit)

*This is a deferred tax liability (a credit) because it is an expense; and it is deducted in the tax return before it is deducted in the income statement. Therefore the lower tax deduction means more income tax in the future on other taxable amounts.

Req. 2

Reporting:

	20A	20B
Income statement:		
Income tax expense	\$5,040	\$4,380
Balance sheet:		
Liabilities:		
Deferred income tax liability	840	-0-
Income tax payable	\$4,200	\$5,220

Req. 3

Tax expense is based on income reported on the income statement. It is a necessary cost associated with earning income and should be recorded in the same period. Income tax is the cost of doing business. Accountants apply the matching concept, which means the amount of tax expense and taxes currently payable are usually different.

E9-10.

Req. 1

- (a) Income tax payable:
 20A: \$13,000 x 32% = \$4,160
 20B: \$18,500 x 32% = \$5,920
- (b) Deferred income tax:
 20A: \$5,000 x 32% = \$1,600 (originating, a debit)*
 20B: \$5,000 x 32% = \$1,600 (reversing, a credit)

*This is a deferred tax asset (a debit) because it is a revenue that was included in the income tax return (20A) before it was included in the income statement (20B). This means that the income tax was paid in advance (i.e., a prepayment of income tax expense), which is an asset.

Req. 2

Entries to record income taxes:

	20A	20B
Income tax expense (E)	2,560*	7,520**
Deferred income tax asset (Req. 1) (A).....	1,600°	1,600†
Income tax payable (Req. 1) (L)	4,160	5,920
*\$4,160 - \$1,600 = \$2,560.		
**\$5,920 + \$1,600 = \$7,520.		
° = originating; † = reversing		

Req. 3

Reporting:

	20A	20B
Income statement:		
Income tax expense	\$2,560	\$7,520
Balance sheet:		
Assets:		
Deferred income tax asset.....	1,600	-0-
Liabilities:		
Income tax payable	4,160	5,920

Req. 4

There are separate rules governing the determination of tax expense (GAAP) and the amount of taxes currently payable (IRS regulations). As a result, these two amounts are different for most companies.

E9-11.

Req. 1

- (a) Income tax payable:
 20A—\$32,000 x 28% = \$ 8,960
 20B—\$56,000 x 28% = \$15,680
 20C—\$85,000 x 28% = \$23,800

(b) Deferred income tax (depreciation):

	20A	20B	20C
Straight-line depreciation (\$75,000 ÷ 3)	\$ 25,000	\$25,000	\$25,000
Accelerated depreciation (tax return)	37,500	25,000	12,500
Temporary difference	\$(12,500)	\$-0-	\$12,500
Multiply by tax rate	x 28%	—	x 28%
Deferred income tax	\$ (3,500)	—	\$ 3,500
	(originating liability; credit)		(reversing; debit)

The originating difference is a liability (a credit) because additional income taxes must be paid in the future. This is a result of lower depreciation deductions in the tax return for the future; that is, lower tax deductions mean more income tax in the future on other taxable amounts.

Req. 2

Reporting:

	20A	20B	20C
Income statement:			
Income tax expense	\$12,460	\$15,680	\$20,300
Balance sheet:			
Liabilities:			
Deferred income tax liability	3,500	3,500	-0-
Income tax payable	8,960	15,680	23,800

E9-12.

Req. 1

The note for Colgate-Palmolive indicates that there is an excess of tax over book depreciation which simply means that depreciation reported on the tax return was greater than depreciation reported on the financial statements. As a result, taxable income would be less than income before taxes reported on the financial statements. This means that tax expense is greater than taxes currently payable for each year in which the total adjustment has the same negative sign that is shown for the depreciation. The opposite is true for 1998.

Req. 2

While the note shown in this exercise did not disclose this fact, Colgate-Palmolive uses straight-line depreciation for financial reporting and accelerated depreciation (MACRS) for tax accounting.

Req. 3

This note explains the cause of the difference between taxes currently payable and tax expense for each year. It is not the amount of deferred taxes reported on the balance sheet.

E9-13.

This arrangement does not create an immediate liability. Carnival has entered into an operating lease, which requires the recording of a lease expense and a lease payable with the passage of time. Ten years is not 75% of the useful life of an office building, so Carnival has not entered into a capital lease arrangement, which does require an asset and a liability being recorded on the balance sheet.

E9-14.

- Req. 1
 $\$12,000 \times f_{i=11\%,n=9}(2.5580) = \$30,696$
- Req. 2
 $\$2,000 \times F_{i=11\%,n=6}(7.9129) = \$15,826$
- Req. 3
 $\$40,000 \times P_{i=11\%,n=7}(.4817) = \$19,268$
- Req. 4
 $\$15,000 \times P_{i=11\%,n=10}(5.8892) = \$88,338$

E9-15.

Req. 1

$\$6,000 \times 2.5937 (f_{i=10\%,n=10}(PV \text{ Table})) = \$15,562$

Req. 2

$\$15,562 - \$6,000 = \$9,562$ (time value of money, or interest)

Req. 3

- 20A: $\$6,000 \times 10\% = \600 (interest)
 20B: $(\$6,000 + \$600) \times 10\% = \$660$ (interest)

E9-16.

Req. 1

$\$80,000 \times P_{i=8\%,n=4}(PV \text{ Table}; .7350) = \$58,800$

Req. 2

Savings account (A)	58,800	
Cash (A)		58,800

Req. 3

$\$80,000 - \$58,800 = \$21,200$ (time value of money or interest)

Req. 4

	December 31	
	20A	20B
Savings accounts (A)	4,704	5,080
Interest revenue (R)	4,704	5,080

Computations:

- 20A: $\$58,800 \times 8\% = \$4,704$
 20B: $(\$58,800 + \$4,704) \times 8\% = \$5,080$

E9-17.

Req. 1

December 31, 20A:		
Savings account (A).....	2,000	
Cash (A).....		2,000

Req. 2

$\$2,000 \times F_{i=9\%,n=10}$ (PV Table; 15.1929) = $\$30,386$ (balance)

Req. 3

$\$30,386 - (\$2,000 \times 10) = \$10,386$ (time value of money or interest)

Req. 4

20B: $\$2,000 \times 9\% = \180

20C: $(\$2,000 + \$2,000 + \$180) \times 9\% = \376

Req. 5

	December 31	
	20B	20C
Savings account (A).....	2,180	2,376
Cash (A).....	2,000	2,000
Interest revenue (R).....	180	376

E9-18.

Req. 1 $\$3,500 \times F_{i=6\%,n=4}$ (PV Table; 4.3746) = $\$15,311$ (balance in the fund)

Req. 2 $\$15,311 - (\$3,500 \times 4) = \underline{\$1,311}$ (time value of money or interest)

Req. 3

20A: No interest because the deposit was at year-end.

20B: $\$3,500 \times 6\% = \underline{\$210}$ (interest)

20C: $(\$3,500 + \$3,500 + \$210) \times 6\% = \underline{\$433}$

20D: $(\$3,500 + \$3,500 + \$3,500 + \$210 + \$433) \times 6\% = \underline{\$669}$

E9-19.

$\$25,000 \times P_{i=15\%,n=5}$ (PV Table; 3.3522) = $\$83,805$ (purchase price)

PROBLEMS

P9-1.

Req. 1

January 8:		
Purchases.....	13,580	
Accounts payable (L).....		13,580
Purchased merchandise.		

January 17:

Accounts payable (L).....	13,580	
Cash (A).....		13,580
Paid January 8 invoice.		

April 1:

Cash (A).....	40,000	
Note payable, short term (L).....		40,000
Borrowed on 12-month, 12%, interest-bearing note.		

June 3:

Purchases.....	17,820	
Accounts payable (L).....		17,820
Purchased merchandise.		

July 5:

Accounts payable (L).....	17,820	
Cash (A).....		17,820
Paid June 3 invoice.		

August 1:

Cash (A).....	5,100	
Rent revenue ($\$5,100 \times 5/6$) (R).....		4,250
Rent revenue collected in advance ($\$5,100 \times 1/6$) (L)		850
Collected rent revenue for 6 months of which one month was for the subsequent year. No adjusting entry required at year end.		

December 20:

Cash (A).....	100	
Liability-deposit on trailer (L).....		100
Received deposit from customer.		

December 31:

Wage expense (E).....	6,500	
Wages payable (L).....		6,500
Adjusting entry for unpaid wages.		

P9-1. (continued)

Req. 2

December 31:		
Interest expense (E).....	3,600	
Interest payable (L).....		3,600
Adjusting entry for 9 months' interest on note payable ($\$40,000 \times 12\% \times 9/12 = \$3,600$).		

Req. 3

Balance Sheet, December 31, 20B:

Current Liabilities	
Note payable, short term.....	\$40,000
Deposit on trailer.....	100
Wages payable.....	6,500
Interest payable.....	3,600
Rent revenue collected in advance.....	850
Total.....	<u>\$51,050</u>

Req. 4 (Assuming current ratio is greater than one)

Transaction	Effect
January 8	Decrease
January 17	Increase
April 1	Decrease
June 3	Decrease
July 5	Increase
August 1	Increase
December 20	Decrease
December 31	Decrease

P9-1. (continued)

Req. 5

Transaction	Effect
January 8	No effect
January 17	Decrease
April 1	Financing activity (no effect on operating activities)
June 3	No effect
July 5	Decrease
August 1	Increase
December 20	Increase
December 31	No effect

P9-2.

Req. 1

Date	Assets	Liabilities	Stockholder's Equity
January 8, 20B	Purchases +	Accounts Payable +	No effect
January 17, 20B	Cash -	Accounts Payable -	No effect
April 1, 20B	Cash +	Note Payable +	No effect
June 3, 20B	Purchases +	Accounts Payable +	No effect
July 5, 20B	Cash -	Accounts Payable -	No effect
August 1, 20B	Cash +	Revenue Collected in Advance +	Revenue +
December 20, 20B	Cash +	Deposit +	No effect
December 31, 20B	No effect	Wages Payable +	Wage Expense +

Req. 2

Transaction	Effect
January 8	No effect
January 17	Decrease
April 1	Financing activity (no effect on operating activities)
June 3	No effect
July 5	Decrease
August 1	Increase
December 20	Increase
December 31	No effect

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P9-2. (continued)

Req. 3

Transaction	Effect
January 8	Decrease
January 17	Increase
April 1	Decrease
June 3	Decrease
July 5	Increase
August 1	Increase
December 20	Decrease
December 31	Decrease

P9-3.

Req. 1

(a) Adjusting entry, December 31, 20B:

Wage expense (E)	3,600	
Wages payable (L)		3,600

(b) Assuming no reversing entry was made on January 1, 20C:

January 6, 20C:

Wages payable (L)	3,600	
Cash (A)		3,600

Assuming a reversing entry was made on January 1, 20C:

Wage expense (E)	3,600	
Cash (A)		3,600

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P9-3. (continued)

Req. 2

(a) December 10, 20B:

Cash (A)	2,400	
Rent revenue (R)		2,400

Collection of rent revenue for one month.

(b) December 31, 20B:

Rent revenue (R)	800	
Rent revenue collected in advance (or Deferred rent revenue) (L)		800

Prepaid rent (10/30 x \$2,400 = \$800).

Alternatively, the collection could have been originally recorded as follows, which would not require an adjusting entry:

Cash (A)	2,400	
Rent revenue (R)		1,600
Rent revenue collected in advance (L)		800

Req. 3

Balance sheet at December 31, 20B:

Current Liabilities:	
Wages payable	3,600
Rent revenue collected in advance	800

Req. 4

Accrual based accounting is more beneficial to financial analysts because it records revenues when they are earned and expenses when they are incurred, regardless of when the related cash is received or paid. Cash based accounting only records revenues when they are received and expenses when they are paid. A financial analyst is looking towards the future of the company, so it is helpful to know how much cash will be coming into and out of the company at later dates. Cash based accounting limits financial analysts to only what has happened in prior periods and tells them very little about future events and cash flows that will affect the financial health of the company.

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P9-4.

Req. 1

Date	Assets	Liabilities	Stockholders' Equity
December 31, 20B	No impact	Wages Payable +	Expense +
January 6, 20C	Cash -	Wages Payable -	No impact
December 10, 20B	Cash +	No impact	Revenue +
December 31, 20B	No impact	Deferred Rent +	Revenue -

Req. 2

Accrual based accounting is more beneficial to financial analysts because it records revenues when they are earned and expenses when they are incurred, regardless of when the related cash is received or paid. Cash based accounting only records revenues when they are received and expenses when they are paid. A financial analyst is looking towards the future of the company, so it is helpful to know how much cash will be coming into and out of the company at later dates. Cash based accounting limits financial analysts to only what has happened in prior periods and tells them very little about future events and cash flows that will affect the financial health of the company.

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P9-5.

1. December 31, 20A:		
Warranty expense (E).....	2,000,000	
Warranty payable (L).....		2,000,000
Total effect of various transactions during 20B:		
Warranty payable (L).....	2,000,000	
Cash (A).....		2,000,000
2. Total effect of various transactions during 20A:		
Cash (A).....	10,000,000	
Unearned revenue (L).....		10,000,000
For 20B:		
Unearned revenue (L).....	8,000,000	
Revenue (R).....		8,000,000
3. The company should report litigation expense and the related liability after the jury awarded damages. If lawyers for Brunswick are confident of their grounds for appeal, the company might simply report a contingent liability.		
4. The current ratio for Coke is .8 which is an extremely low ratio. In isolation, it might seem like an indication of trouble but analysts would look at much more information. For example, Coke was able to generate over \$2.2 billion in cash from its operations. The Company has a line of credit that will permit it to borrow \$1.6 billion in credit. Analysts would also compare the ratio to similar companies. For example, the current ratio for PepsiCo is .79. This brief exercise is intended to open a discussion concerning the need to avoid placing too much emphasis on a specific accounting number or ratio.		
5. Many manufacturing companies have some adverse impact on our environment. In many cases, federal law requires these companies to rectify these negative effects. Alcoa refers to these environmental cleanup efforts as "remedial efforts." Alcoa records the cost of future environmental cleanup efforts in the year that the damage is done instead of the year that the work is performed. This policy is consistent with the matching principle. Environmental damage can be thought of as a necessary cost of producing aluminum. The cost should be matched with the cost of the aluminum instead of being recorded as an expense in the period in which the cleanup work actually takes place.		

P9-6.

- Remain the same
- Decrease
- Remain the same
- Remain the same
- Remain the same
- Decrease
- Remain the same
- Remain the same
- Increase

P9-7.

Req. 1

(a) Income Taxes Payable:	
	\$80,000 × 30% = \$24,000
(b) Deferred Income Tax	
Straight Line Depreciation:	\$11,000
Accelerated Depreciation:	\$17,600
Temporary Difference:	(\$6,600)
Multiply by Tax Rate:	30%
Deferred Income Tax:	(\$1,980) – Originating liability, credit

The originating difference is a liability (a credit) because additional income taxes must be paid in the future. This is a result of lower depreciation deductions in the tax return for the future; that is, lower tax deductions means more income tax in the future on other taxable amounts.

P9-7. (continued)

Req. 2

Income Tax Expense.....	25,980	
Deferred Income Taxes Liability (L).....		1,980
Cash (A).....		20,400

Req. 3

Reporting:

Income Statement:	
Income Tax Expense.....	\$25,980

Balance Sheet:

Deferred Income Tax Liability.....	\$1,980
Income Tax Payable.....	\$3,600

P9-8.

Req. 1

Balance in the fund:
\$50,000 × $f_{i=4\%,n=8}$ (PV Table; 1.3686) = \$68,430

Interest revenue:
\$68,430 - \$50,000 = \$18,430

Req. 2

Single sum to deposit:
\$400,000 × $p_{i=8\%,n=5}$ (PV Table; .6806) = \$272,240

Interest revenue:
\$400,000 - \$272,240 = \$127,760

Req. 3

Required amount of each equal annual deposit:
\$500,000 ÷ $F_{i=8\%,n=6}$ (PV Table; 7.3359) = \$68,158

Interest revenue:
\$500,000 - (\$68,158 × 6) = \$91,052

Req. 4

Equal annual payments on note payable:
\$120,000 ÷ $P_{i=8\%,n=4}$ (PV Table; 3.3121) = \$36,231

Interest expense:
(\$36,231 × 4) - \$120,000 = \$24,924

P9-9.

Option 1:

\$1,000,000 × 8.5136	=	\$8,513,600
----------------------	---	-------------

Option 2:

\$8,000,000	=	\$8,000,000
-------------	---	-------------

Option 3:

\$2,000,000 + (\$700,000 × 8.5136)	=	\$7,959,520
------------------------------------	---	-------------

Option 1 is the best option because it leads provides the greatest present value when all options are discounted at 10%.

P9-10.

Req. 1

\$140,000 ÷ $F_{i=7\%,n=4}$ (PV Table; 4.4399) = \$31,532 (annual deposits)

Req. 2

\$140,000 - (\$31,532 × 4) = \$13,872 (time value of money or interest)

Req. 3

20A: None because the first deposit was at the end of 20A.	
20B: \$31,532 × 7%.....	\$ 2,207
20C: (\$31,532 + \$2,207 + \$31,532) × 7%.....	4,569
20D: (\$31,532 + \$2,207 + \$31,532 + \$4,569 + \$31,532) × 7%.....	7,096
Total interest revenue (as above).....	<u>\$13,872</u>

Req. 4

(a) December 31, 20A:		
Debt retirement fund (A).....		31,532
Cash (A).....		31,532
(b) December 31:		
	20B	20C
Debt retirement fund (A).....	33,739	36,101
Cash (A).....	31,532	31,532
Interest revenue (R).....	2,207	4,569

P9-10. (continued)

Req. 4 (continued)

(c) December 31, 20D:		
Liability (long term) (L).....	140,000	
Debt retirement fund (A).....		140,000
(\$31,532 x 4) + \$13,872 = \$140,000.		

Req. 5

Income Statement, For the Year Ended December 31, 20B:	
Interest revenue.....	\$ 2,207

Balance Sheet, At December 31, 20B:

Investments and Funds:	
Debt retirement fund (\$31,532 + \$2,207 + \$31,532).....	\$65,271

P9-11.

Req. 1

\$17,000 + P_{n=12%,r=4} (PV Table; 3.0373) = \$5,597 (annual payment)

Req. 2

(\$5,597 x 4) - \$17,000 = \$5,388 (time value of money or interest)

Req. 3

Debt Payment Schedule

Date	Cash Payment	Interest Expense	Principal Decrease	Unpaid Principal
1/1/20A				\$17,000
12/31/20A	\$ 5,597	\$17,000 x 12% = \$2,040	\$ 3,557 ^(a)	13,443 ^(b)
12/31/20B	5,597	13,443 x 12% = 1,613	3,984	9,459
12/31/20C	5,597	9,459 x 12% = 1,135	4,462	4,997
12/31/20D	5,597	4,997 x 12% = 600	4,997	—
Totals	\$22,388	\$5,388	\$17,000	

^(a) \$5,597 - \$2,040 = \$3,557, etc.

^(b) \$17,000 - \$3,557 = \$13,443, etc.

Req. 4

The amount of interest expense decreases each year because it is based on the unpaid principal which decreases in amount each year. Each year more of the payment applies to principal and less to interest expense.

ALTERNATE PROBLEMS

AP9-1

Req. 1

January 15, 20B:		
Tax Expense (E).....	125,000	
Tax payable (L).....		93,000
Deferred Tax Liability (L).....		32,000

January 31, 20B:

Accrued Interest Payable (L).....	52,000	
Cash (A).....		52,000

April 30, 20B:

Cash (A).....	550,000	
Note Payable (L).....		550,000

June 3, 20B:

Inventory (A).....	75,820	
Account Payable.....		75,820

July 5, 20B:

Account Payable (L).....	75,820	
Cash (A).....		75,820

August 31, 20B:

Cash (A).....	12,000	
Revenue (R).....		8,000
Deferred Revenue (L).....		4,000

Req. 2

December 31, 20B:		
Accrued Interest Expense (E).....	44,000	
Interest Payable (L).....		44,000

December 31, 20B:

Long-term Liability (L).....	100,000	
Current Liability.....		100,000

December 31, 20B:

Wage Expense (E).....	85,000	
Wages Payable (L).....		85,000

AP9-1 (continued)

Req. 3

Balance Sheet:

CURRENT LIABILITIES		
Wages Payable	\$85,000	
Taxes Payable	93,000	
Deferred Tax Liability	32,000	
Accrued Interest Payable	44,000	
Deferred Revenue	4,000	
Note Payable	550,000	
Current Portion of Long-term Debt	100,000	
TOTAL CURRENT LIABILITIES		\$908,000

Req. 4

Cash from Operating Activities:

January 15, 20B	No effect
January 31, 20B	Decreased
April 30, 20B	No effect
June 3, 20B	No effect
July 5, 20B	Decreased
August 31, 20B	Increased
December 31, 20B	No effect
December 31, 20B	No effect
December 31, 20B	No effect

AP9-2

Req. 1

Date	Assets	Liabilities	Stockholders' Equity
January 15, 20B	No effect	Deferred Tax Liability + Taxes Payable +	Expense -
January 31, 20B	Cash -	Interest Payable -	No effect
April 30, 20B	Cash +	Note Payable +	No effect
June 3, 20B	Inventory +	Account Payable +	No effect
July 5, 20B	Cash -	Account Payable -	No effect
August 31, 20B	Cash +	Deferred Revenue +	Revenue +
December 31, 20B	No effect	Interest Payable +	Expense -
December 31, 20B	No effect	Long-term Liability - Current Liability +	No effect
December 31, 20B	No effect	Wages Payable +	Expense -

Req. 2

Cash from Operating Activities:

January 15, 20B	No effect
January 31, 20B	Decreased
April 30, 20B	No effect
June 3, 20B	No effect
July 5, 20B	Decreased
August 31, 20B	Increased
December 31, 20B	No effect
December 31, 20B	No effect
December 31, 20B	No effect

AP9-3

Req. 1

20D	Expense +	\$8.5 million
	Liability +	\$8.5 million
20E	Liability -	\$8.5 million
	Cash -	\$8.5 million

Req. 2

Customer deposits are reported as a liability until earned.

Incomplete 10-day cruises	\$ 4.0 million
Partial Cruises	
\$8 million × (1-60%)	\$ 3.2 million
Cruises not started	<u>7.0 million</u>
	\$14.2 million

Req. 3

Many of the lawsuits against the company are not material in amount. The company did record \$31.2 million in losses related to litigation. In one lawsuit, the company recorded a loss of \$12 million, but had to reverse \$8.1 million of that amount when the actual loss was determined. The accrual and the recording of the loss reduced income. The reversal increased income.

Req. 4

While the current ratio is low and tending downward, it is doubtful that Exxon is experiencing financial difficulty. The company has a reputation for aggressive cash management. It would be useful to study the SCF to determine if Exxon is generating significant cash resources from operating activities.

Req. 5

The company estimates future costs and records them as a current expense. The matching concept dictates that all costs related to earning revenue should be reported in the same accounting period as the revenue.

AP9-4

- a. Decrease
- b. Decrease
- c. Decrease
- d. Remain the same
- e. Decrease
- f. Remain the same
- g. Decrease
- h. Decrease
- i. Remain the same

AP9-5

Req. 1

- (a) Income tax payable:
20D—\$82,000 × 32% = \$26,240
20E—\$85,000 × 32% = \$27,200

(b) Deferred income tax:

- Expense:
20D—\$8,000 × 32% = \$2,560 (originating; a credit)*
20E—\$8,000 × 32% = \$2,560 (reversing; a debit)

*This is a deferred tax liability (a credit) because it is an expense; and it is deducted in the tax return before it is deducted in the income statement. Therefore, the lower future tax deduction means more income tax in the future on other taxable amounts; a liability.

Revenue

- 20E—\$6,000 × 32% = \$ 1,920 (originating; a credit)*
20F—\$6,000 × 32% = \$ 1,920 (reversing; a debit)

*This is a deferred tax liability (a credit) because it is a revenue that was included in the tax return after it was included in 20E income statement. Therefore, at the end of 20E there was a tax liability on the temporary difference.

Net deferred tax:

- 20D—\$2,560 (originating liability; a credit)
20E—\$2,560 (reversing; a debit) - \$1,920 (originating; a credit) = \$640
20F—\$1,920 (reversing; a debit)

AP9-5 (continued)

Req. 2

Entries to record income taxes:

	20D	20E
Income tax expense (E).....	28,800*	26,560**
Deferred income tax liability (Req. 1) (L)....	2,560 ^o	640 ^f
Income tax payable (Req. 1) (L).....	26,240	27,200
*\$26,240 + \$2,560 = \$28,800		
**\$27,200 - \$640 = \$26,560		

^o = originating; ^f = reversing

Req. 3

Reporting:

	20D	20E
Income statement:		
Income tax expense.....	\$28,800	\$26,560

Balance sheet:

	20D	20E
Liabilities:		
Deferred income tax liability.....	2,560	1,920*
Income tax payable (\$26,240 × 20%).....	5,248	5,440**

*\$2,560 - \$640 = \$1,920. This amount will reverse in 20F.

**\$27,200 × 20% = \$5,440

Req. 4

A deferred tax amount will be paid at some indefinite point in the future while taxes payable will be paid on a specific date. As a result, most analysts see the nature of these liabilities as being somewhat different. To illustrate, some companies with an expanding amount of property, plant and equipment may be able to defer taxes indefinitely if the amount of new deferred taxes on recently purchased assets exceeds the amount of reversal on older assets. In this case, analysts would not include the amount of deferred taxes in their projections of cash flows.

AP9-6

Req. 1

$\$200,000 \times f_{n=10; i=5\%} (1.6289)$	=	\$325,780
---	---	-----------

The total amount of interest earned = \$125,780

Req. 2

$\$1,000,000 \times p_{n=10; i=10\%} (.3855)$	=	\$385,500
---	---	-----------

The total amount of interest earned = \$614,450

Req. 3

\$800,000	=	X ($f_{n=10; i=10\%} (15.9374)$)
\$50,196	=	X

The total amount of interest earned = \$298,040

Req. 4

\$350,000	=	X ($P_{n=4; i=10\%} (3.1699)$)
\$110,414	=	X

The amount of interest paid = \$91,656

AP9-7

Option 1:		
\$1,000,000	=	\$1,000,000
Option 2:		
$\$60,000 \times p_{n=20; i=8\%} (9.8181)$	=	\$589,086
Option 3:		
$\$50,000 \times P_{n=10; i=8\%} (6.7101)$	=	\$335,505
$+ 70,000 \times p_{n=10; i=8\%} (6.7101) \times 0.4632$	=	217,568
Total	=	\$553,073

Option 1 is the best because it gives you the highest return. The time value of money makes a dollar received today worth more than a dollar received one year from now, therefore, option one is the best because you receive the greatest value.

AP9-8

Req. 1 $\$320,000 \times F_{i=9\%,n=3}$ (PV Table; 3.2781) = **\\$1,048,992**

Req. 2

Fund Accumulation Schedule				
Date	Cash Payment (cr)	Interest Revenue (prior balance x 9%) (cr)	Fund Increase	Fund Balance (dr)
12/31/20A	\$320,000		\$ 320,000	\$ 320,000
12/31/20B	320,000	$\$320,000 \times 9\% =$ 28,800	348,800	668,800
12/31/20C	320,000	$668,800 \times 9\% =$ 60,192	380,192	1,048,992
Total	<u>\\$960,000</u>	<u>\\$88,992</u>	<u>\\$1,048,992</u>	

Req. 3

	December 31		
	20A	20B	20C
Plant addition fund (A)...	320,000	348,800	380,192
Interest revenue (R)...		28,800	60,192
Cash (A).....	320,000	320,000	320,000

Req. 4

January 1, 20D:			
Plant addition (A).....		1,060,000	
Plant addition fund (A).....			1,048,992
Cash (A).....			11,008

AP9-9

Req. 1 $\$50,000 \div P_{i=8\%,n=3}$ (PV Table; 2.5771) = **\\$19,402** (annual payment)

Req. 2

$(\$19,402 \times 3) - \$50,000 =$ **\\$8,206** (time value of money or interest)

Req. 3

Debt Payment Schedule				
Date	Cash Payment	Interest Expense	Principal Decrease	Unpaid Principal
1/1/20A				\$50,000
12/31/20A	\$19,402	$\$50,000 \times 8\% =$ 4,000	$\$15,402^{(a)}$	$\$34,598^{(b)}$
12/31/20B	\$19,402	$\$34,598 \times 8\% =$ 2,768	16,634	17,964
12/31/20C	19,402	$17,964 \times 8\% =$ 1,438*	17,964	0-
Totals	<u>\\$58,206</u>	<u>\\$8,206**</u>	<u>\\$50,000</u>	

^(a) $\$19,402 - \$4,000 = \$15,402$, etc.

^(b) $\$50,000 - \$15,402 = \$34,598$, etc.

Rounded \$1 to accommodate prior rounding errors.

**Must agree with Requirement 2.

Req. 4

	December 31		
	20A	20B	20C
Note payable (L).....	15,402	16,634	17,964
Interest expense (E).....	4,000	2,768	1,438
Cash (A).....	19,402	19,402	19,402

Req. 5

Interest expense decreased in amount each year because it is based on unpaid principal which decreases each year. Each successive payment was more principal reduction and less interest expense.

CASES AND PROJECTS

FINANCIAL REPORTING AND ANALYSIS CASES

CP9-1.

- Req. 1 \$17,739,000
- Req. 2 Changes in payables decreased cash flows by \$5,400,000
- Req. 3 None
- Req. 4 \$2,298,000
- Req. 5 The company offered a contributing profit sharing retirement program.

CP9-2.

- Req. 1 Compensation expense is not separately reported. The accrued compensation liability is \$2,011,000.
- Req. 2 The increase in these payables was a positive adjustment to the SCF.
- Req. 3 \$4,041,000
- Req. 4

Accrued sales taxes	\$956,000
Accruals for construction in progress	\$1,233,000
Other current liabilities	\$3,687,000
- Req. 5 Only for contingent rentals

CP9-3.

Req. 1

	American Eagle Outfitters	Urban Outfitters
1997: Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$	$\frac{\$73,760}{\$39,382} = 1.87$	
1998: Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$	$\frac{\$102,473}{\$53,987} = 1.90$	$\frac{\$65,793}{\$13,660} = 4.82$
1999: Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$	$\frac{\$154,504}{\$59,751} = 2.59$	$\frac{\$71,555}{\$24,028} = 2.98$

Req. 2

	Industry Average	American Eagle Outfitters	Urban Outfitters
Current Ratio =	2.26	2.59	2.98

Both American Eagle Outfitters' and Urban Outfitters' current ratios are above the industry average. Based only on the current ratio, it appears both companies are more liquid than the average company in their industry.

CP9-3. (continued)

Req. 3

	American Eagle Outfitters	Urban Outfitters
1998: Accounts Payable Turnover Ratio = $\frac{\text{Cost of Goods Sold}}{\text{Avg. Accts Payable}}$	$\frac{\$268,746}{\$22,518} = 11.93$	
1999: Accounts Payable Turnover Ratio = $\frac{\text{Cost of Goods Sold}}{\text{Avg. Accts Payable}}$	$\frac{\$353,089}{\$21,579} = 16.36$	$\frac{\$129,625}{\$12,575} = 10.31$

Long-term Liabilities

American Eagle	none
Urban Outfitters	\$4,041,000

Req. 4

	Industry Average	American Eagle Outfitters	Urban Outfitters
Payable Turnover =	8.2	16.4	10.3

Both American Eagle Outfitters' and Urban Outfitters' payable turnover ratios are above the industry average. Based on the payable turnover ratio, both of these companies are doing better than the average company in their industry at paying trade creditors.

Req. 5

Both companies have strong current ratios and good payable turnover ratios. American Eagle is free of long-term debt, while Urban Outfitters has long-term debt related to leases. Both companies generate significant cash flow from operating activities. Both are expending significant resources for capital expenditures, but they have sufficient resources available to continue to invest in marketable securities. On balance, liquidity looks strong for both.

CP9-4.

Req. 1

The cost of a free ticket could be measured in terms of what economists call "opportunity cost." If providing free tickets meant that there were not sufficient seats available to sell to paying passengers, the opportunity cost would be the lost revenue from not having extra seats. The incremental cost approach uses an estimate of cash expenditures to measure the liability associated with a frequent flyer program, but many analysts probably prefer a broader definition that would reflect the total impact of the program on the profitability of the company (i.e., the "cost" of lost revenues). Unfortunately, opportunity costs are very difficult to measure.

Req. 2

Southwest would debit an expense account because of the matching concept. The cost of a frequent flyer program is an expense that should be matched with current revenue.

CP9-5.

This type of classification is consistent with generally accepted accounting principles. An analyst wants liabilities classified in terms of the timing of the expected cash flows. If a short-term obligation is expected to be refinanced, there will be no cash flow in the short term. It is reasonable to classify that type of obligation as long term.

If a company classifies a short-term obligation as long term, it must have both the intent and ability to refinance the obligation. Analysts would be most concerned about the company's ability to refinance.

CP9-6.

Students often discuss a variety of issues. In class, we like to explore such issues as corporate responsibility for the environment and strategies that focus on clean operations versus costly clean-up. From an accounting perspective, we emphasize the difficulty of measuring future environmental costs.

CP9-7.

Req. 1

In business transactions, it usually is unreasonable to assume that one party will lend money to an unrelated party without charging interest. It is likely that the advertised selling price of the home included the true cash selling price plus an amount equal to the time value of money (interest) for the four-year period. Therefore, to evaluate the offer, the required payments must be analyzed (as in 2 below).

Req. 2

If the monthly payments actually include principal and interest, the cash selling price can be found by calculating the present value of the monthly payments:

$$\$3,125 \times P_{i=1\%,n=48} = 37,9740 \text{ (given)} = \$118,669$$

CP9-8. Present value computation:

Payment	PV Factor	Present Value
\$864	.9091	\$785
713	.8264	589
564	.7513	424
488	.6830	333
373	.6209	232
1,448	.3855*	558
Total		\$2,921

*Assumption: the Exxon note does not state the payment dates for those occurring "2004 and beyond." We have arbitrarily assumed that they will occur, on average, in 10 years. Other assumptions are equally valid. By examining other assumptions during class, we like to point out that assumptions have a relatively minor effect on present value computations as the number of periods increases.

CRITICAL THINKING CASES

CP9-9.

	Current Ratio	Working Capital	Liquidity
a.	Decrease	No Change	Short-term improvement
b.	Increase	Increase	Improvement
c.	Increase	Increase	Improvement
d.	Increase	No Change	No Change
e.	No Change	No Change	Improvement
f.	Increase	Increase	No Change*

*Employees would be paid in any case. Thus, the net result is that current liabilities are reduced.

CP9-10.

While the question focuses on ethics, we believe that students should analyze the proposed strategy. Refusing to accept merchandise would result in a higher current ratio (assuming that it is currently greater than one). If the merchandise is purchased on credit, a constant amount added to current liabilities and current assets results in a lower current ratio. Management could actually improve the current ratio by shipping merchandise to customers because it would record accounts receivable based on selling price and reduce inventory based on cost.

There are legitimate ethical issues raised when management alters the operations of a business to achieve an accounting result. Students should understand, however, that management in many organizations engage in behaviors designed to affect accounting reports.

We have included strategies for affecting ratios as well as reported profits. We have found some students believe some strategies are ethical but others are not. In such situations, we have been able to have very meaningful discussions concerning situational ethics.

CP9-11.

Strong cash flows are associated with financial strength. A company with good cash flows often does not need a large amount of working capital because its ability to generate cash provides it with an appropriate level of liquidity.

Cash flow represents a stream of new resources. Working capital is an inventory of resources. Most analysts would prefer to see strong cash flows over a large amount of working capital.

CP9-12.

Req. 1 Not report

Req. 2 Not report

Req. 3 Report Liability

Req. 4 Judgment call depending on circumstances. A contingent liability might be sufficient, but some auditors would insist on a liability.

Req. 5 Liability

CP9-13.

The purpose of this assignment is to show that it is possible to have a consensus in accounting on an issue in the abstract but often there is considerable disagreement when the question is more specific.

CP9-14.

The jackpot does not have a present value of \$3 million. The payments include interest earned by the state while it makes payments at the 20 year period.

We believe that this form of advertising is misleading. We think that lottery jackpots should be advertised at their cash value today (i.e., present value) not the total of future payments.

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Solutions Manual

FINANCIAL REPORTING AND ANALYSIS PROJECTS**CP9-15.**

The response to this case will depend on the companies selected by the students.

CP9-16.

The response to this case will depend on the companies selected by the students.

CP9-17.

The response to this case will depend on the companies selected by the students.

CP9-18.

The response to this case will depend on the companies selected by the students.

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Chapter 10 Reporting and Interpreting Bonds

ANSWERS TO QUESTIONS

1. A bond is a liability that may or may not be secured by a mortgage on specified assets. Bonds usually are in denominations of \$1,000 or \$10,000, are transferable by endorsement, and may be bought and sold daily by investors. A bond specifies a maturity date and rate of interest that will be paid on the principal amount. Bonds usually are issued to obtain cash for long-term asset acquisitions (operational assets) and expansion of the entity.
2. A bond indenture is an agreement drawn up by a company planning to sell a bond issue. The indenture specifies the legal provisions of the bond issue such as maturity date, rate of interest, date of interest payments, and any conversion privileges. When a bond is sold, an investor receives a bond certificate (i.e., a bond). All of the bond certificates for a single bond issue are identical in most respects. That is, each certificate states the same maturity date, interest rate, interest dates, and other provisions of the bond issue.
3. Secured bonds are supported by a mortgage or pledge of specific assets as a guarantee of payment. Secured bonds are designated on the basis of the type of asset pledged, such as real estate mortgage bonds and equipment trust bonds. Unsecured bonds are not supported by a mortgage or pledge of specific assets as a guarantee of payment at maturity date. Unsecured bonds usually are called debentures.
4. Callable bonds—bonds that may be called for early retirement at the option of the issuer.
Redeemable bonds—bonds that may be turned in for early retirement at the option of the bondholder.
Convertible bonds—bonds that may be converted to other securities of the issuer (usually common stock) after a specified future date at the option of the bondholder.

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5. Several important advantages of bonds compared with capital stock benefit the issuer. The issuance of bonds establishes a fixed amount of liability and a fixed rate of interest on the bond, and interest payments to the bondholders are deductible on the income tax return of the issuer. This deduction for tax purposes reduces the net cost of borrowing. For example, a corporation with a 40% average tax rate and bonds payable with a 10% interest rate would incur a net interest rate of $10\% \times 60\% = 6\%$.
6. The higher the tax rate is, the lower the net cost of borrowing money because the interest paid on borrowed money is deductible on the income tax return of the borrower. The higher the income tax rate the less the net interest cost to the borrower. For example, a corporation with an average tax rate of 40% and debt with 10% interest per annum incurs a net interest rate of $10\% \times 60\% = 6\%$. In contrast, the same corporation with a 20% average tax rate incurs a net interest rate of $10\% \times 80\% = 8\%$.
7. Financial leverage is the advantage in favor of the stockholders of a corporation that is caused by earning a higher rate of return on total assets employed than the after-tax rate of interest on all debts outstanding. Financial leverage is measured as the rate of return on stockholders' equity minus the rate of return on total equities (assets). Financial leverage may be positive (in favor of the stockholders) or negative.
8. At the date of issuance, bonds are recorded at their current cash equivalent amount; that is, the amount of cash received for the bonds when issued. The recording is in conformity with the cost principle.
9. When a bond is issued (sold) at its face amount, it is issued at par. In contrast, when a bond is sold at an amount lower than the par amount, it is issued at a discount, and conversely, when it is sold at a price above par, it is issued at a premium. A bond will sell at discount when the market, or effective, rate of interest is higher than the stated rate of interest on the bond. In contrast, when the market or effective rate of interest is lower than the stated rate, the bond will sell at a premium. Discounts or premiums on bonds payable are adjustments to the effective interest rate on the bonds. Therefore, the discount or premium is amortized over the life of the bonds as an increase or decrease in the amount of interest expense for each period.
10. The stated rate of interest is the rate specified on a bond, whereas the effective rate of interest is the market rate at which the bonds are selling currently.

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11. When a bond is sold at par, the stated interest rate and the effective or market interest rate are identical. When a bond is sold at a discount, the stated rate of interest is lower than the effective rate of interest on the bond. In contrast, when a bond is sold at a premium, the stated rate of interest is higher than the effective rate of interest.

12. A bond issued at par will have a carrying value, or net liability, equal to the par or principal of the bond. This amount should be reported as the carrying value on each balance sheet date. When a bond is sold at a premium or discount, the premium or discount must be amortized over the outstanding life of the bond. When there is bond discount or premium, the par amount of the bond less the unamortized discount, or plus the unamortized premium, must be reported on the balance sheet as the net liability as follows:

Bonds payable	\$100,000	\$100,000
Less: Unamortized discount	12,000	
Plus: Unamortized premium		12,000
Carrying value (net liability)	<u>\$ 88,000</u>	<u>\$112,000</u>

13. The basic difference between straight-line amortization and effective-interest amortization of bond discount and premium is that, under straight-line amortization, an equal amount of premium or discount is amortized to interest expense each period. Straight-line amortization per interest period is computed by dividing the total amount of the premium or discount by the number of periods the bonds will be outstanding. Under effective-interest amortization, the amount of premium or discount amortized is different each period. Effective-interest amortization of bond premium and discount correctly measures the current cash equivalent amount of the bonds and the interest expense reported on the income statement based on the issuance entry. It measures the amount of amortization by relating the market (yield) rate to the net liability at the beginning of each period. For this reason interest expense and the bond carrying value are measured on a present value basis and related to the effective rate of interest. The straight-line method can be used only when the results are not materially different from the results of the effective-interest method.

14. Only bonds that management has the plans and ability to hold until maturity can be reported in the held-to-maturity portfolio. Common stock does not have a maturity date, so it would be inappropriate to include it in the held-to-maturity portfolio.

Authors' Recommended Solution Time
(Time in minutes)

Mini-exercises		Exercises		Problems		Alternate Problems		Cases and Projects	
No.	Time	No.	Time	No.	Time	No.	Time	No.	Time
1	5	1	20	1	40	A1	20	1	25
2	5	2	30	2	30	A2	15	2	20
3	5	3	15	3	30	A3	30	3	20
4	5	4	15	4	40	A4	40	4	50
5	5	5	10	5	50	A5	40	5	30
6	5	6	15	6	45	A6	50	6	30
7	5	7	20	7	45	A7	30	7	25
8	5	8	10	8	50			8	25
9	5	9	10	9	10			9	25
10	5	10	20					10	25
11	5	11	20					11	25
		12	25					12	*
		13	30					13	*
		14	25					14	*
		15	30					15	*
		16	30					16	25
		17	30					17	*
		18	20						
		19	20						
		20	20						

* Due to the nature of these cases and projects, it is very difficult to estimate the amount of time students will need to complete the assignment. As with any open-ended project, it is possible for students to devote a large amount of time to these assignments. While students often benefit from the extra effort, we find that some become frustrated by the perceived difficulty of the task. You can reduce student frustration and anxiety by making your expectations clear. For example, when our goal is to sharpen research skills, we devote class time discussing research strategies. When we want the students to focus on a real accounting issue, we offer suggestions about possible companies or industries.

MINI-EXERCISES

- M10-1**
- Balance Sheet
 - Income Statement
 - Statement of Cash Flows
 - May be in notes
 - Not at all
 - May be in notes

M10-2.

Principal	$\$500,000 \times pn=20, i=4\% (0.4564)$	=	\$228,200
Interest	$\$ 25,000 \times pn=20, i=4\% (13.5903)$	=	\$339,758
Issue Price		=	\$567,958

M10-3.

Principal	$\$300,000 \times pn=20, i=6\% (0.3118)$	=	\$93,540
Interest	$\$ 15,000 \times pn=20, i=6\% (11.4699)$	=	\$172,049
Issue Price		=	\$265,589

M10-4.

January 1, 20A:			
Cash (A).....	545,000		
Premium on Bonds Payable (L).....		45,000	
Bonds Payable (L)		500,000	
June 30, 20A:			
Bond Interest Expense (E).....		17,750	
Premium on Bonds Payable (L)		2,250	
Cash (A).....			20,000

M10-5.

January 1, 20A:			
Cash (A).....	1,070,000		
Premium on Bonds Payable (L).....		70,000	
Bonds Payable (L).....		1,000,000	
June 30, 20A:			
Bond Interest Expense (E).....	37,450		
Premium on Bonds Payable (L)	2,250		
Cash (A).....			40,000

M10-6.

January 1, 20A:			
Cash (A).....	580,000		
Discount on Bonds Payable (XL)	20,000		
Bonds Payable (L).....		600,000	
June 30, 20A:			
Bond Interest Expense (E).....	31,000		
Discount on Bonds Payable (XL)		1,000	
Cash (A).....			30,000

M10-7.

January 1, 20A:			
Cash (A).....	753,000		
Discount on Bonds Payable (XL)	47,000		
Bonds Payable (L).....		800,000	
June 30, 20A:			
Bond Interest Expense (E).....	41,415		
Discount on Bonds Payable (XL)		1,415	
Cash (A).....			40,000

M10-8.

When a company issues a bond at a discount, the interest expense each period will be more than the cash payment for the interest. When a company issues a bond at a premium, the interest expense will be less than the cash payment for the interest. Neither is affected by the method used to amortize the discount or premium.

M10-9.

If the interest rates fall after the issuance of a bond, the bond's price will increase. The company will report a loss on the debt retirement. On the balance sheet cash and bonds payable will decrease. On the income statement an extraordinary loss would be recorded.

M10-10.

January 1, 20A:		
Held to Maturity Investment (A)	1,070,000	
Cash		1,070,000

M10-11.

January 1, 20A:		
Held to Maturity Investment (A)	530,000	
Cash (A)		530,000
January 30, 20A:		
Cash (A)	20,000	
Interest Revenue (R)		18,500
Held to Maturity Investment (A)		1,500

EXERCISES

E10-1.

Req. 1

1995:		
Bond Interest Expense (E)	19,255	
Cash (A)		19,255
1996:		
Bond Interest Expense (E)	31,033	
Cash (A)		31,033
1997:		
Bond Interest Expense (E)	24,979	
Cash (A)		24,979

Req. 2

Cash (A)	635,761	
Bonds Payable (L)		635,761

Req. 3

Lennar uses the bonds to finance business activities. When business activities increase, the company needs to borrow more money and does this through selling bonds. In 1995, the company experienced a slow year and only needed \$635 million dollars. Lennar was much busier in 1996, and needed \$837 million dollars. In 1997, business slowed down again and Lennar needed to borrow only \$661 million dollars. The cyclical movement in busy and slow years is very common in the real estate industry.

E10-2.

Req. 1

Cash is increased on the income statement. Bonds payable and premium on bonds payable are increased on the balance sheet. The debt-to-equity ratio will be increased and the times-interest-earned ratio will be decreased.

January 1, 20A:		
Cash (A)	300,328	
Premium on bonds payable (L)		50,328
Bonds payable (L)		250,000

Principal: \$250,000 x $P_{n=10, i=8\%}$ (PV Table; .4632)	\$115,800
Interest: \$27,500 x $P_{n=10, i=8\%}$ (PV Table; 6.7101)	\$184,528
Issue (sale) price	<u>\$300,328</u>

Req. 2

The interest expense will be increased on the income statement and the cash will be decreased on the income statement. The premium on bonds payable will be decreased on the balance sheet. The debt-to-equity ratio will be decreased and the times-interest-earned ratio will be increased.

December 31, 20A:		
Interest expense (E)	22,467	
Premium on bonds payable (\$50,328 ÷ 10 periods) (L)		5,033
Cash (\$250,000 x 11%) (A)		27,500

E10-2. (continued)

Req. 3

December 31, 20A:

Income Statement:

Bond Interest Expense	\$22,467	
-----------------------	----------	--

Balance Sheet:

Long-term Liabilities		
Bonds Payable	\$250,000	
Add: Unamortized premium (\$50,328 - \$5,033)	\$45,295	\$295,295

E10-3.

The effective interest rate for a bond is determined by market forces and not the company. Apple was able to specify the coupon rate for the bonds which determines the periodic interest payments. It appears that Apple intended to sell the bonds close to par value which would be achieved by having a coupon rate that was the same as the market rate. The market rate of interest continually changes as the result of such factors as inflation expectations and the level of business activity. It is virtually impossible to issue a bond at a point when the coupon rate and the market rate are exactly the same. Apple came very close because the bonds sold for 99.925% of par.

E10-4.

A zero coupon bond pays no current interest. Interest is accrued over the life of the bonds and is paid when the bonds mature. These bonds sell for a deep discount. A convertible bond may be converted into common stock at the option of the holder. This is a very attractive feature that permits bondholders to become owners if the company prospers. A subordinated bond has a lower priority in case of bankruptcy. Subordination means that other bonds will be paid off before any funds will be paid to the subordinated bondholders. This is an unattractive feature.

A zero coupon bond is always reported at a discount (with the exception of a very brief time before it matures). Bonds that are reported at a discount are often shown at their net amount without a separate account for the discount.

E10-5.

If bonds with a \$10,000 face value were purchased, the issue price would be \$8,950 and they would provide a cash yield of 7.3%. A decline in value after issuance would have no impact on AT&T's financial statements.

E10-6.

Assuming that both companies offer the same business risk, many people might prefer the bond that had the slightly higher yield which is Walt Disney at 9.5%. If interest rates were to fall significantly, companies might decide to call their bonds and issue new ones at a lower interest rate. In this case, a zero coupon bond offers an extra margin of protection. A zero is sold at a deep discount (say 60% of par). It would be very unusual to see a company call such a bond if it were callable at par. In this case, the PepsiCo bond would be preferred.

Many people who are retired desire to have a steady income without engaging in time-consuming transactions. These people would probably not want to buy a zero coupon bond which paid interest on maturity.

E10-7.

Computations:

Interest
 $\$150,000 \times 8\% \times 1/4 = \$3,000$
 Present value
 $\$150,000 \times .5537 = \$83,055$
 $\$3,000 \times 14.8775 = 44,633$
\$127,688

February 1		
Cash (A).....	127,688	
Bond-discount (XL)	22,312	
Bond payable (L)		150,000
Amortization of discount		
$\$22,312/20 \text{ periods} = \$1,116 \text{ (rounded)}$		
May 1 and August 1		
Interest expense (E).....	4,116	
Cash (A).....		3,000
Bond discount (XL).....		1,116

E10-7. (continued)

The amount of interest paid on a bond is established by contract and normally remains fixed over the life of the bond. In many cases, the cash interest paid on a bond is different than the market rate of interest. In such cases, the price of the bond changes so that the bond yields the market rate. When the market interest rates increase, the price of the bond will fall. When rates decrease, the bond price will increase. A discount simply means that the bond is selling for less than par; a premium occurs when the bond sells for more than par. All bonds are priced to yield the current market rate without regard to the amount of cash interest that is paid currently.

E10-8.

Req. 1

First, the debt in Japanese yen must be converted into U.S. dollars. It is reported on the balance sheet as a normal liability (bonds payable) in terms of U.S. dollars.

Req. 2

Management borrowed in this manner in order to finance their operations in Japan without facing currency exchange rate risk.

E10-9.

Applied Technologies' ratios look better than Innovative Solutions' ratios. Applied Technologies has a lower debt-to-equity ratio than Innovative Solutions. This means that they have fewer debt payments to make to creditors, and therefore, are a less leveraged company and have a lot less risk than Innovative Solutions. Applied Technologies' times-interest-earned ratio is higher than the ratio for Innovative Solutions. This also makes Applied Technologies a less risky company than Innovative Solutions because Applied Technologies generates a larger amount of income compared to its obligatory payments to creditors than Innovative Solutions.

E10-10.

Computations:

Interest:
 $\$500,000 \times 10\% \times 1/2 = \$25,000$
 Present value:
 $\$500,000 \times .3769 = \$188,450$
 $\$25,000 \times 12.4622 = 311,555$
 Issue price = \$500,005

This problem is useful for illustrating two points: (1) Bonds are recorded at their present value not their maturity value. These two amounts are the same when the effective and stated rates of interest are the same. Some students observe this situation and erroneously conclude that bonds are recorded at maturity value. (2) The use of tables produces small rounding errors. The present value of the bond should be exactly \$500,000. This point should be emphasized because many students will use calculators with present value functions and become confused when their answers are different from the ones presented in class.

E10-11.

Computations:

Interest:
 $\$1,000,000 \times 10\% \times 1/2 = \$50,000$
 Present value
 $\$1,000,000 \times .6756 = \$675,600$
 $\$50,000 \times 8.1109 = 405,545$
\$1,081,145

June 30		
Cash (A).....	1,081,145	
Bond payable (L)		1,000,000
Bond premium (L).....		81,145

The amortization of bond premium results in cash payments for interest that are higher than reported interest expense for the period.

E10-12.

Req. 1—Issue price:

CASE A:		
\$100,000 = $p_{n=10,i=4\%}$ (PV Table; 0.6756).....	\$67,560	
\$4,000 x $P_{n=10,i=4\%}$ (PV Table; 8.1109).....	32,444	
Issue price (market and stated rate same).....	<u>\$100,000</u>	(at par; \$4 Rounding error)
CASE B:		
\$100,000 x $p_{n=10,i=3\%}$ (PV Table; 0.7441).....	\$74,410	
\$4,000 x $P_{n=10,i=3\%}$ (PV Table; 8.5302).....	34,121	
Issue price (market rate less than stated rate).....	<u>\$108,531</u>	(at a premium)
CASE C:		
\$100,000 x $p_{n=10,i=5\%}$ (PV Table; 0.6139).....	\$61,390	
\$4,000 x $P_{n=10,i=5\%}$ (PV Table; 7.7217).....	30,887	
Issue price (market rate more than stated rate).....	<u>\$92,277</u>	(at a discount)

E10-13.

Req. 1

January 1, 20A:		
Cash (A).....	187,163	
Discount on bonds payable (XL).....	12,837	
Bonds payable (L)		200,000
Sales of bonds at a discount.		
Principal: $\$200,000 \times p_{n=9,i=9\%}$ (PV Table; .4224).....	\$84,480	
Interest: $\$16,000 \times P_{n=9,i=9\%}$ (PV Table; 6.4177).....	102,683	
Issue (sale) price	<u>\$187,163</u>	

Req. 2

December 31, 20A:		
Interest expense (E).....	17,284	
Discount on bonds payable (\$12,837 ÷ 10 periods) (XL)		1,284
Cash (\$200,000 x 8%) (A)		16,000
Payment of annual interest and amortization of discount for 12 months.		

Req. 3

December 31, 20A:		
Income statement:		
Bond interest expense	\$17,284	
Balance sheet:		
Long-term Liabilities		
Bonds payable, 8%	\$200,000	
Less: Unamortized discount (\$12,837 - \$1,284)	11,553	<u>\$188,447</u>

E10-14.

Req. 1

Issue price:

- Par, \$400,000 – Carrying value at end of 1 year, \$389,200 = \$10,800 (unamortized discount for 9 remaining years).
- $\$10,800 \div 9 \text{ years} = \$1,200$ discount amortization per year (straight line).
- $\$389,200 - \$1,200 = \$388,000$ issue price (discount \$12,000).

Issuance entry, January 1, 20A:

Cash (A).....	388,000	
Discount on bonds payable (XL).....	12,000	
Bonds payable (L).....		400,000

Req. 2

Coupon (stated interest) rate:

- Reported interest expense, \$33,200 – Discount amortized, $\$1,200 \times 32,000$ (cash interest).
- $\$32,000 + \$400,000 = 8\%$ coupon (stated interest) rate.

Interest expense, December 31, 20A:

Interest expense (E).....	33,200	
Discount on bonds payable (\$12,000 ÷ 10 years) (XL).....		1,200
Cash (\$400,000 x 8%) (A).....		32,000

E10-15.

Req. 1

$\$10,000 \times P_{n=3; i=12\%}$ (PV Table; 0.7118).....	\$7,118
$\$1,000 \times P_{n=3; i=12\%}$ (PV Table; 2.4018).....	2,402
Bond issue price.....	<u>\$9,520</u>

The amount of bond liability, net of discount, is \$9,520.

Req. 2

December 31, 20A

Interest expense (\$9,520 x 12% x 9/12) (E).....	857	
Discount on bonds payable (\$857 – \$750) (XL).....		107
Interest payable (\$10,000 x 10% x 9/12) (L).....		750

The amount of interest expense is \$857.

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E10-15. (continued)

Req. 3

Balance Sheet		
Bonds payable, 10%.....	\$10,000	
Less: Unamortized discount (\$480 – \$107).....	<u>373</u>	<u>\$9,627</u>

Req. 4

March 31, 20B (assuming no reversing entry was made)

Interest expense (\$9,520 x 12% x 3/12) (E).....	286	
Interest payable (L).....	750	
Cash (\$10,000 x 10%) (A).....		1,000
Discount on bonds payable* (XL).....		36

*\$286 – (\$10,000 x 10% x 3/12)

The amount of interest expense is \$286. This amount is different from the amount of cash paid. This is because the bonds were sold at a discount and are accruing interest, which will be paid back to the investors when the bonds mature. 75% of the interest expense for this interest period was reported in 20A.

E10-16.

- Issue price: \$951. Stated rate, 9%; effective or yield rate, 11% (both were given).
- Discount: $\$1,000 - \$951 = \$49$.
- $\$1,000 \times 9\% = \90 .
- Year A, \$105; Year B, \$106; Year C, \$108.
- Balance sheet:
Year A \$ 966
Year B \$ 982
Year C \$1,000 (immediately before retirement)
- Effective-interest amortization was used.
(1) $\$1,000 \times 9\% = \90 .
(2) $\$966 \times 11\% = \106 (rounded).
(3) $\$106 - 90 = \16 .
(4) $\$966 + \$16 = \$982$.

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E10-16. (continued)

- Effective-interest amortization measures the amount of interest expense and net liability for each period on a present value basis. The interest expense and related amortization are based on the actual unpaid balance of the debt and the effective interest rate. Straight-line amortization is an approximation that does not take these factors into consideration. The effective-interest method is conceptually preferable but the straight-line method is used widely in practice because of computational simplicity and the materiality concept.

E10-17.

Req. 1

Date	Cash Interest	Interest Expense	Premium Amortization	New Liability Balance
1/1/20A				\$10,253
12/31/20A	\$1,000	$\$10,253 \times 9\% = \923	\$77	\$10,176
12/31/20B	\$1,000	$\$10,176 \times 9\% = \916	\$84	\$10,092
12/31/20C	\$1,000	$\$10,092 \times 9\% = \908	\$92	\$10,000
			\$253	

Present value computation:

Principal:	$\$10,000 \times .7722$ (from PV table)	\$ 7,722
Interest:	$1,000 \times 2.5313$ (from PV table)	2,531
	Issue price	<u>\$10,253</u>

Req. 2

	20A	20B	20C
December 31:			
Interest expense.....	\$923	\$916	\$908
Bond liability.....	\$10,176	\$10,092	\$10,000

E10-18.

- Impacts SCF : report \$945,000 inflow in financing section
- Does not impact SCF
- Impacts SCF : report \$58,000 payment in operating activities section.
- Impacts SCF : report \$935,000 payment in financing section

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E10-19.

Req. 1

Held-to-maturity portfolio (A).....	10,500,000	
Cash (A).....		10,500,000

Req. 2

Cash (\$10,000,000 x 10% x 6/12) (A).....	500,000	
Interest revenue (R).....		475,000
Held-to-maturity portfolio (\$500,000 + 20 years) (A).....		25,000

Req. 3

No journal entry is required. An increase in the market value of bonds in the held-to-maturity portfolio is not recorded.

E10-20.

Req. 1

- Held to Maturity Investment increased
- Cash decrease

Req. 2

- Cash increased
- Held to Maturity Investment increased
- Interest Revenue increased

Req. 3

No journal entry is required. A decrease in the market value of bonds in the held-to-maturity portfolio is not recorded.

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PROBLEMS

P10-1.

Req. 1

December 31, 20A—Financial statements:	Case A At Par, 100	Case B At 96	Case C At 102
a. Interest expense	\$ 10,000	\$ 10,400	\$ 9,800
b. Bonds payable	\$100,000	\$100,000	\$100,000
c. Unamortized premium or discount.....		(3,600)	1,800
d. Net liability	\$100,000	\$ 96,400	\$101,800
e. Stated rate of interest	10%	10%	10%
f. Cash interest paid	\$ 10,000	\$ 10,000	\$ 10,000

Req. 2—Explanation of differences:

Item a, interest expense, is different (in this situation) from Item f, cash interest paid, by the amount of any bond discount or premium amortized for the period. This divergence reflects the fact that discount and premium are adjustments of interest expense because of a difference between the market and stated interest rates at date of issuance of bonds.

Req. 3

The letter should explain that most bonds pay a fixed rate of interest by contract. As market interest rates change over time, the price of the bond changes. When the market interest rates increase, the price of the bond will fall. When rates decrease, the bond price will increase. A discount simply means that the bond is selling for less than par; a premium occurs when the bond sells for more than par. There is no advantage to purchasing a bond at a discount because all bonds will adjust in price to yield the market rate of interest.

P10-2.

Bonds are recorded based on their issue price and are not adjusted for changes in market value during the life of the bonds. This rule is similar to the one for most assets. A building, for example, is recorded at its acquisition cost and is not adjusted for changes in its market value during its life.

The market value of a bond changes for many reasons, the most common of which is changes in interest rates. Bonds are bought and sold every day on established bond exchanges. These transactions are based on interest rates that exist on the date of the

P10-2. (continued)

transaction. For example, a corporation may issue a 7% bond when interest rates are 6%. This bond would sell at a premium. The holder of the bond may sell it a few years later when interest rates had increased to 8% at which time the bond would sell at a discount.

The market value of a bond may also change as the result of changes in the risk characteristics of the company. If there was an increased probability of bankruptcy, the bonds would decline in value.

The note does not mention a call option, so the problem assumes that Hilton would have to purchase these bonds in the market, in which case they would have to pay current market value:

Bonds payable (L)	1,132.5 (million)
Loss on bond retirement (E) ..	41.0 (million)
Cash (A)	1,173.5 (million)

P10-3.

The current liability classification is based on the expectation that the company will pay the liabilities during the subsequent year. Analysts are interested in this classification because it provides important information to use when predicting future cash flows. If management has the intent and the ability to refinance a short-term liability, then it will not result in a cash outflow. In this circumstance, it is appropriate to reclassify the debt as long term.

The current ratio for PepsiCo is very low when compared to most companies. The Company, however is not experiencing a liquidity problem. It generates large cash flows from operations and has a significant line of credit available if it needs additional funds. Furthermore, the industry traditionally operates with a relatively low current ratio. Coke, for example, has a .80 current ratio. It is therefore unlikely that management made the reclassification simply to increase its current ratio. Instead the Company was probably trying to get a better balance between short-term and long-term borrowings.

Because management has the ability and intent to refinance the borrowings on a long-term basis, the current ratio should be based on the reclassification. The analyst might want to use the ratio before reclassification if he or she thought that the reclassification was only intended to manipulate the ratio (which does not appear to be the case). The analyst should use caution when comparing the current ratio for the current year (after reclassification) with the ratio for the previous year (before reclassification).

P10-4.

1. Computations:

$$\begin{aligned} \$400,000 \times .4564 &= \$182,560 \\ \$ 12,000 \times 13.5903 &= 163,084 \\ &= \underline{\$345,644} \end{aligned}$$

March 1, 20A		
Cash (A)	345,644	
Bond - discount (XL)	54,356	
Bond payable (L)		400,000

2. September 1, 20A		
Interest expense (E)	13,826	
Cash (A)		12,000
Bond - discount (XL)		1,826
$\$345,644 \times 8\% \times 6/12 = \$13,826$		

3. December 31, 20A		
Interest expense (E)	9,266	
Interest payable (L)		8,000
Bond - discount (XL)		1,266
$(\$345,644 + \$1,826) \times 8\% \times 4/12 = \$9,266$		

4. Managers are normally relatively indifferent between the straight-line and effective interest methods. The two methods typically produce very similar financial results. In such cases, most managers would select the method that is simpler to use, which would be the straight-line method.

Date	Debt-to-Equity	Times-Interest-Earned
March 1, 20A	Increase	No effect
September 1, 20A	Increase	Decrease
December 31, 20A	Increase	Decrease

P10-5.

Req. 1

	Case A	Case B	Case C
a. Cash inflow at issued (sale) date	\$500,000	\$490,000	\$510,000
b. Total cash outflow through maturity date	850,000	850,000	850,000
c. Difference—Total interest expense, (pretax)	\$350,000	\$360,000	\$340,000

Computations:			
$\$500,000 + (\$500,000 \times 7\% \times 10 \text{ years}) = \$850,000$			
d. Income statement for 20A:			
Bond interest expense (pretax, item c + 10 years) ..	\$ 35,000	\$ 36,000	\$ 34,000
e. Balance sheet at December 31, 20A:			
Long-Term Liabilities			
Bonds payable, 7%	\$500,000	\$500,000	\$500,000
f. **Unamortized discount (deduct)		9,000	
g. **Unamortized premium (add)			9,000
h. Net liability	\$500,000	\$491,000	\$509,000
**Balance in discount or premium account (January 1, 20A)			
	—0—	\$ 10,000	\$ 10,000
Amortization during 20A			
Unamortized balance on December 31, 20A		(1,000)	(1,000)
		\$ 9,000	\$ 9,000
i. Stated rate of interest (given)	7%	7%	7%
j. Total interest expense, net of tax			
Pretax interest expense, item c x (100% - 25%) ..	\$262,500	\$270,000	\$255,000

Req. 2—based on Req. 1:

In each case, Item c, total pretax interest expense, is ten times Item d, annual interest expense, because the former is the total for ten years while the latter is for one year only.

In each case, Item j, total aftertax interest expense is less than Item c, total pretax interest expense, because there is a 25% tax savings on the expense.

P10-6.

Req. 1			
Principal:	\$600,000 = $P_{n=10,i=4\%}$ (PV Table; .6756)		\$405,360
Interest:	\$27,000 x $P_{n=10,i=4\%}$ (PV Table; 8.1109)		218,994
	Issue (sale) price.....		<u>\$624,354</u>

Req. 2

January 1, 20A:			
Cash (A).....	624,354		
Premium on bonds payable (L).....		24,354	
Bonds payable, 9% (L).....		600,000	
Sale of bonds at a premium.			

Req. 3

June 30, 20A:			
Bond interest expense (E).....		24,565	
Premium on bonds payable (\$24,354 ÷ 10 periods) (L).....		2,435	
Cash (\$600,000 x 4.5%) (A).....			27,000
Semiannual interest payable plus premium amortization for 6 months.			

December 31, 20A:			
Bond interest expense (E).....		24,565	
Premium on bonds payable (L).....		2,435	
Cash (A).....			27,000
Semiannual interest payment plus premium amortization for 6 months.			

June 30, 20B:			
Bond interest expense (E).....		24,565	
Premium on bonds payable (L).....		2,435	
Cash (A).....			27,000
Semiannual interest payment plus premium amortization for 6 months.			

Req. 4

Income statement for 20A:

Interest expense (\$24,565 + \$24,565) = \$49,130

Balance Sheet at December 31, 20A:

Long-term Liabilities:

Bonds payable.....	\$600,000	
Add: Unamortized premium (\$24,354 - \$2,435 - \$2,435).....	19,484	<u>\$619,484</u>

P10-7.

1. Missing amounts are underlined:

Date	Cash	Interest	Amortization	Balance
Jan. 1, 20A.....				\$6,101
End of Year 20A.....	\$450	\$427	\$23	6,078
End of Year 20B.....	450	425	25	6,053
End of Year 20C.....	450	424	26	6,027
End of Year 20D.....	450	422	27*	6,000

Calculations:
 Effective interest rate: $\$427 \div \$6,101 = 7\%$ (rounded)
 Interest: $7\% \times$ Previous balance
 Amortization: Cash payment - Interest
 Balance: Previous balance - Amortization
 *\$1 rounding error

- Maturity (par) amount: \$6,000 from last column at end of year 20D.
 - Cash received: \$6,101 from last column at January 1, 20A.
 - Premium: $\$6,101 - \$6,000 = \$101$.
 - Cash disbursed for interest: \$450 per period x 4 years = \$1,800 total.
 - Effective-interest amortization: Evident from the computations in the schedule. The amortization amount is different each year.
 - Stated rate of interest: $\$450 \div \$6,000 = 7.5\%$.
 - Yield or effective rate of interest: $\$427 \div \$6,101 = 7\%$ (rounded).
 - Interest expense: 20A, \$427; 20B, \$425; 20C, \$424; 20D, \$422.
 - Balance sheet:
- | | 20A | 20B | 20C | 20D |
|--|---------|---------|----------|----------|
| Long-Term Liabilities | | | | |
| Bonds payable, 7.5% (due Dec. 31, 20D) | | | | |
| Maturity amount \$6,000, plus unamortized premium..... | \$6,078 | \$6,053 | \$6,027* | \$6,000* |

* At the end of 20C and during the last year of the term of the bonds before retirement they would be reported as a current liability on the balance sheet.

P10-7. (continued)

11. Effective-interest amortization is preferable to straight-line because it measures (1) interest expense (on income statement) and (2) the net present value amount (on the balance sheet) on a conceptually sound basis. The effective-interest method provides the correct amounts for the income statement and balance sheet because interest expense, and as a consequence the amortization, is based on the unpaid balance of the debt. The straight-line method relates amortization to the passage of time (rather than to the unpaid balance of the debt). The straight-line method provides only approximations of the true amounts. The effective-interest method is required; however, the straight-line method may be used if its results are not materially different.

P10-8.

Req. 1			
Principal:	\$800,000 x $P_{n=5,i=12\%}$ (PV Table; .5674)		\$453,920
Interest:	\$64,000 x $P_{n=5,i=12\%}$ (PV Table; 3.6048)		230,707
	Bond issue price.....		<u>\$684,627</u>

The stated rate of interest is used only to compute the periodic cash interest payments of \$64,000. This amount is necessary because it is discounted to PV using the effective interest rate.

The effective interest rate is used to discount the two future cash flows: principal and cash interest. The discounting must be based on the effective interest rate because the selling (issue) price is the PV of the future cash flows.

Req. 2—Straight-line amortization:

	20A	20B	20C	20D	20E
a. Cash interest payment (\$800,000 x 8%).....	\$64,000	\$64,000	\$64,000	\$64,000	\$64,000
b. Amortization of Discount (\$115,373 ÷ 5 years).....	23,075	23,075	23,075	23,075	23,075
c. Bond interest expense.....	\$87,075	\$87,075	\$87,075	\$87,075	\$87,075
d. Effective interest rate: $\$87,075 \div \$800,000 = 10.88\%$.					

e. Explanation of theoretical deficiency: The straight-line rate gives a constant amount for interest expense (\$87,075). However, the net liability (i.e., carrying value of the debt) increases (with a discount). Therefore, use of the straight-line method records an implicit interest rate that changes. For example, year 1, $\$87,075 \div \$684,627 = 12.72\%$, and year 5, $\$87,075 \div \$800,000 = 10.88\%$.

P10-8. (continued)

Req. 3—Effective-interest amortization:

Date	Bond Payment Schedule			Amortization of Discount	Net Liability
	Cash Payment	Interest Expense			
1/1/20A					\$684,627
12/31/20A	\$64,000	\$684,627 × 12% = \$82,155		\$18,155	702,782
12/31/20B	64,000	702,782 × 12% = 84,334		20,334	723,116
12/31/20C	64,000	723,116 × 12% = 86,774		22,774	745,890
12/31/20D	64,000	745,890 × 12% = 89,507		25,507	771,397
12/31/20E	64,000	771,397 × 12% = 92,603*		28,603	800,000
				\$115,373	

*Rounded

A constant interest rate can be demonstrated each year by dividing interest expense by the net liability - the answer on all lines will be the effective rate (12%).

Req. 4

Effective-interest amortization is preferable to straight-line because it better measures interest expense (on the income statement) and the net liability (on the balance sheet). The effective-interest approach is conceptually sound because interest expense is based on the unpaid balance of the liability. In this case, interest expense as a percent of the net liability is 12% each period (the effective or true rate) only if the effective-interest approach is used. If the straight-line approach is used, the interest percent changes each year and ranges from 10.88% to 12.72%.

P10-9.

Req. 1

The company issued new bonds to retire their old bonds.

Req. 2

Management wanted to have the lower interest rate of 6.85%, instead of their old rate of 11.25%.

ALTERNATE PROBLEMS

AP10-1.

The fair value is the price at which the bonds sell at today. The carrying value is the original issue price. There is a difference between the fair value and the carrying value because interest rates change over the lives of the bonds, therefore, their selling prices must also change.

Bonds Payable (L).....	759,500,000	
Gain (L).....	20,200,000	
Cash (A).....		779,700,000

AP10-2.

The contractual agreement that General Mills entered into allows them to re-classify the current borrowings as non current debt. Management would want to do this in order to improve the current ratio and other measures of liquidity. A financial analyst's answer would not be different. A financial analyst would not be concerned because the company has the ability to extend the maturity dates of the debt beyond the current year.

AP10-3.

Req. 1

March 1, 20A:			
Cash (A).....	2,297,600		
Premium on bonds payable (L).....		297,600	
Bonds Payable (L).....		2,000,000	

Req. 2

September 1, 20A:			
Bond Interest Expense (E).....	68,928*		
Premium on Bonds Payable (L).....	11,072		
Cash (A).....		80,000	

*\$2,297,600 × .06 × 6/12 = \$68,928

AP10-3. (continued)

Req. 3

December 31, 20A:			
Interest expense (E).....	45,731*		
Premium on bonds payable (L).....	7,603		
Cash (A).....		53,334	

*(\$2,297,600 – \$11,072) × .06 × 4/12 = \$45,731

Req. 4

Managers are normally relatively indifferent between the straight-line and effective interest methods. The two methods typically produce very similar financial results. In such cases, most managers would select the method that is simpler to use, which would be the straight-line method.

Req. 5

Date	Debt-to-Equity	Times-Interest-Earned
March 1, 20A	Increase	No effect
September 1, 20A	Increase	Decrease
December 31, 20A	Increase	Decrease

AP10-4.

Req. 1 (000's):

							At End of 20E	
	At Start of 20A	At End of 20A	At End of 20B	At End of 20C	At End of 20D	Prior to Payment of Principal	Payment of Principal	
Case A—Sold at par (100):								
Pretax cash inflow	\$100	\$	\$	\$	\$	\$	\$	
Pretax cash outflow		10	10	10	10	10	100	
Interest expense on the income statement		10	10	10	10	10		
Net liability on balance sheet	100	100	100	100	100	100		
Case B—Sold at a discount (90):								
Pretax cash inflow	90							
Pretax cash outflow		10	10	10	10	10	100	
Interest expense on income statement		12	12	12	12	12		
Net liability on balance sheet	90	92	94	96	98	100		
Case C—Sold at a premium (110):								
Pretax cash inflow	110							
Pretax cash outflow		10	10	10	10	10	100	
Interest expense on income statement		8	8	8	8	8		
Net liability on balance sheet	110	108	106	104	102	100		

AP10-4. (continued)

Req 2—(000's):

	Case A	Case B	Case C
(a) Total pretax cash outflow	\$150	\$150	\$150
(b) Total pretax cash inflow (issue price)	\$100	\$ 90	\$110
(c) Difference—Net pretax cash outflow	\$ 50	\$ 60	\$ 40
(d) Total pretax interest expense (same as pretax cash outflow)	\$ 50	\$ 60	\$ 40

Req. 3

(a) The total cash outflow for interest and principal for each case is the same each period. The pretax cash inflows were different for each case only because the sale (issue) prices were different.

(b) Interest expense over the term of the debt is equal to the net difference between the cash inflows and outflows; this takes into account any discount or premium. Total interest expense is equal to total cash interest paid, plus any discount, or minus any premium.

AP10-5.

Req. 1

Principal	\$1,000,000 × P _{n=20,i=5%} (0.3769)=	\$376,900
Interest	\$40,000 × P _{n=20,i=5%} (12.4622)=	\$498,488
Issue Price		\$875,388

Req. 2

January 1, 20A:			
Cash (A).....		875,388	
Discount on Bonds Payable (XL).....		124,612	
Bonds Payable (L).....			1,000,000

AP10-5. (continued)

Req. 3

June 30, 20A:			
Bond Interest Expense (E).....	46,231		
Discount on Bonds Payable (XL)		6,231	
Cash (A)		40,000	
December 31, 20A:			
Bond Interest Expense (E).....	46,231		
Discount on Bonds Payable (XL)		6,231	
Cash (A)		40,000	
June 30, 20B:			
Bond Interest Expense (E).....	46,231		
Discount on Bonds Payable (XL)		6,231	
Cash (A)		40,000	

Req. 4

The amount reported for interest expense for 20A will be \$92,462 (\$46,231 + \$46,231).

Balance Sheet at December 31, 20A:

Long-term Liabilities:			
Bonds Payable		\$1,000,000	
Less: Unamortized discount (\$124,612-\$6,231-\$6,231)	\$112,150		\$887,850

AP10-6.

Req. 1

The stated rate of interest is used only to compute the periodic cash interest payments of \$120,000. This amount is necessary because it is discounted to PV using the effective interest rate.

The effective interest rate is used to discount the two future cash flows: principal and cash interest. The discounting must be based on the effective interest rate because the selling (issue) price is the PV of the future cash flows.

AP10-6. (continued)

Req. 1 (continued)

Principal	\$1,200,000 × P _{n=5,i=8%} (0.6806)	=	\$816,720
Interest	\$120,000 × P _{n=5,i=8%} (3.9927)	=	\$479,124
Issue Price		=	\$1,295,844

Req. 2

January 1, 20A:			
Cash (A).....	1,295,844		
Premium on Bonds Payable (L).....		95,844	
Bonds Payable (L)		1,200,000	

Req. 3—Straight-line amortization:

	20A	20B	20C	20D	20E
a. Cash interest payment	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000
(\$1,200,000 × 10%).....					
b. Amortization of Premium	19,169	19,169	19,169	19,169	19,169
(\$95,844 ÷ 5 years).....					
c. Bond interest expense	\$100,831	\$100,831	\$100,831	\$100,831	\$100,831
d. Effective interest rate: \$100,831 ÷ \$1,200,000 = 8.4%.					
e. Explanation of theoretical deficiency: The straight-line rate gives a constant amount for interest expense (\$100,831). However, the net liability (i.e., carrying value of the debt) decreases (with a premium). Therefore, use of the straight-line method records an implicit interest rate that changes. For example, year 1, \$100,831 / \$1,295,844 = 7.8%, and year 5, \$100,831 / \$1,200,000 = 8.4%.					

Req. 4—Effective-interest amortization:

	<i>Bond Payment Schedule</i>				
	<i>Cash</i>	<i>Interest Expense</i>	<i>Amortization of</i>	<i>Net</i>	
<i>Date</i>	<i>Payment</i>		<i>Discount</i>	<i>Liability</i>	
1/1/20A				\$1,295,844	
12/31/20A	\$120,000	\$1,295,844 × 8% = \$103,668	\$16,332	1,279,512	
12/31/20B	120,000	1,279,512 × 8% = 102,361	\$17,639	1,261,873	
12/31/20C	120,000	1,261,872 × 8% = 100,950	\$19,050	1,242,823	
12/31/20D	120,000	1,242,822 × 8% = 99,426	\$20,574	1,222,249	
12/31/20E	120,000	1,222,248 × 8% = 97,751*	\$22,249	1,200,000	

*Rounded.

AP10-6. (continued)

Req. 4 (continued)

A constant interest rate can be demonstrated each year by dividing interest expense by the net liability – the answer on all lines will be the effective rate (8%).

Req. 5

Effective-interest amortization is preferable to straight-line because it better measures interest expense (on the income statement) and the net liability (on the balance sheet). The effective-interest approach is conceptually sound because interest expense is based on the unpaid balance of the liability. In this case, interest expense as a percent of the net liability is 8% each period (the effective or true rate) only if the effective-interest approach is used. If the straight-line approach is used, the interest percent changes each year and ranges from 7.8% to 8.4%.

AP10-7.

Req. 1

Cash (A).....	52,720,000		
Bonds payable (11 7/8%) (L).....		52,720,000	
Bonds payable (13.6%) (L)	50,000,000		
Loss on bond retirement (E)	2,720,000		
Cash (A).....		52,720,000	

Req. 2

The loss on this transaction would be reported on the income statement as an extraordinary loss.

Req. 3

There are a number of reasons why a bond may be retired early. For example, the bond may include a restrictive covenant which can only be overcome by retirement. The present case does not mention any reasons of this nature. The most likely explanation is cash flow. The old bonds required interest payments of \$6,800,000 per year (13.6% × \$50,000,000). The new bonds (assuming they were issued at an amount close to par) require \$6,260,500 (11 7/8% × \$52,720,000) for a saving of \$539,500 per year over the life of the bonds.

CASES AND PROJECTS

FINANCIAL REPORTING AND ANALYSIS CASES

CP10-1.

Req. 1

The company did not pay interest during the year.

Req. 2

Bonds must be reported unless the company has not issued any. Therefore, the company must not have issued bonds.

Req. 3

The company has a lending arrangement to borrow up to \$75 million when needed. (see Note 5)

Req. 4

The company has invested in municipal bonds. (see Note 2)

CP10-2.

Req. 1

\$6,000 was paid during 1999. (see Note 15)

Req. 2

Bonds must be reported unless the company has not issued any. Therefore, the company must not have issued bonds.

Req. 3

The company has a \$16,200,000 line of credit. (see Note 6)

Req. 4

The notes indicate that the company has both held-to-maturity and available-for-sale portfolios. (see Note 1)

CP10-3.

Req. 1

Neither company has borrowed any long-term debt. Both companies are able to fund growth with cash generated from operating activities. Management of Urban Outfitters state "the company expects that accumulated cash and cash from operations will be sufficient to meet the company's cash needs for at least the next three years."

Req. 2

Accounting ratios are useful in most circumstances but not all. The capital structures for these two companies are unusual and, as a result, ratios discussed in this chapter do not provide useful insights.

CP10-4.

Req. 1—Comparison of results:

Item	Actual Results for 20A	Results with an \$80,000 Increase in Debt and an \$80,000 Decrease in Stockholders' Equity
(a) Total debt.....	\$ 20,000	\$100,000
(b) Total assets.....	300,000	300,000
(c) Total stockholders' equity.....	280,000	200,000
(d) Interest expense (total at 10%).....	2,000	10,000
(e) Net income.....	70,000	64,400
(f) Return on total assets.....	23.8%	23.8%
(g) Earnings available to stockholders:		
(1) Amount.....	\$ 70,000	\$ 64,400
(2) Per share.....	3.50	5.37
(3) Return on stockholders' equity.....	25%	32.2%
(h) Financial leverage (25% - 23.8%).....	1.2%	(32.2% - 23.8%) 8.4%

CP10-4. (continued)

Req. 1 (continued)

Computations:

- (a) Given
- (b) Given
- (c) Given
- (d) $\$100,000 \times 10\% = \underline{\$10,000}$
- (e) $(\$100,000 + \$2,000 - \$10,000) = \$92,000$, pretax; $\$92,000 \times (100\% - 30\%) = \underline{\$64,400}$
- (f) $\$70,000 + [\$2,000 \times (100\% - 30\%) = \$1,400] = \$71,400$; $\$71,400 + \$300,000 = \underline{23.8\%}$
 $\$64,400 + [\$10,000 \times (100\% - 30\%) = \$7,000] = \$71,400$; $\$71,400 + \$300,000 = \underline{23.8\%}$
- (g-1) From Item (e)
- (g-2) $\$70,000 + 20,000 \text{ shares} = \underline{\$3.50 \text{ EPS}}$
 $\$64,400 + 12,000 \text{ shares} = \underline{\$5.37 \text{ EPS}}$
- (g-3) $\$70,000 + \$280,000 = \underline{25\%}$
 $\$64,400 + \$200,000 = \underline{32.2\%}$

Req. 2 Interpretation:

The recommendation provided higher financial leverage compared with actual financial leverage. This increase in positive financial leverage was because the company had a net of tax interest rate on debt that was lower than the return on total assets. This increase is favorable to the stockholders because their potential dividends (based on retained earnings) and total owners' equity are much higher. The disadvantage of higher debt is the cash required to pay interest and principal. This company appears to have the potential for future success. Therefore, the higher debt leverage seems advisable.

CP10-5.

Req. 1

Most bond indentures specify two types of cash outflows during the life of a bond issue: (1) periodic interest payments, and (2) payment of par value at maturity. When the stated interest rate is less than the effective interest rate, bonds will sell at a discount. This means that when the bond matures, the investor will receive more cash than was paid for the bond when it was purchased. The discount on the bond compensates the investor for the difference between a stated interest rate that is less than the effective rate of interest. The J. C. Penney bond sold at a "deep discount" because the stated rate of interest was zero. If investors want 15% effective interest, they would be willing to pay only \$326.90 for a \$1,000 J. C. Penney bond; the present value of the bond is computed as follows:

Principal: $\$1,000 \times p_{n=8,i=15\%}$ (PV Table; .3269) \$326.90

Req. 2

Principal	$\$400,000,000 \times p_{n=8,i=15\%} (0.3269) =$	\$130,760,000
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The bonds would sell for 32.69% of par value, which is \$130,760,000 for bonds with a \$400,000,000 face value.

CP10-6.

1. $(\$8,000 - \$6,000) \times 7.3601 = \$14,721$ (rounded up)
 This amount is the same as the bond premium because the amount of a bond premium (or discount) is the present value of the extra (smaller) interest paid on the bond compared to what the market demands.
 2. Each year, the company pays out \$8,000. Part of this amount is the interest earned each period and the remainder is a return of the bond premium. The return of the premium reduces the net amount borrowed and therefore interest expense declines.
 3. Computations:
 $\$100,000 \times .6651 = \$66,510$
 $\$8,000 \times 5.5824 = \underline{44,659}$
 Present value \$111,169
- Except for rounding errors, the amounts are the same. The effective interest method provides a book value for bonds that is equal to the present value of the cash flows for the debt over its remaining life. This fact is especially useful if you are asked to compute interest expense on the 315th payment on a 30-year mortgage.

CP10-7

Generally, risk adverse investors who need fixed income are interested in buying bonds. Other investors buy bonds to lessen the overall risk of their portfolios. Inflation erodes the purchasing power of the dollar and makes bonds less attractive. Interest compensates investors for the use of their money and for expected inflation. Unexpected inflation harms bond holders.

CRITICAL THINKING CASES

CP10-8.

The company that finances solely through equity is the preferable company. The company with the debt financing structure already has creditors that it has to make payments to. Since they have similar cash flows and net incomes, there is a higher chance that the company already using debt financing might default on their payments to their creditors. The company that does not use debt is a much lower risk investment. The industry represented by these companies should not influence this decision.

CP10-9.

People invest in different securities for a variety of reasons. Bondholders are interested in fixed income and low risk. They are willing to give up higher returns for lower risk. While the President of the company may be confident of a high return on the investment, in reality there is always risk. It is not unethical to offer an investor a lower risk, lower return investment.

CP10-10.

All investors should assess the risk and return associated with any investment before they spend their money. The characteristics of bonds are explained in the bond indenture. As a result, investors should have a clear understanding of a bond before it is purchased. Bonds with a call feature provide somewhat higher risk for investors but they are often compensated with a slightly higher rate of return. Given that call features are described in the bond indenture, it is difficult to argue that it is unethical for a company to exercise a call option. Most students conclude that this is a situation where the buyer of a bond has an obligation to read the indenture. Some students will argue, however, that it may not be reasonable to expect that an elderly person has the skill necessary to interpret a complex legal document. Most classes conclude that the use of the call option is ethical but that corporations have an obligation to provide understandable information to investors.

CP10-11.

Obviously, there is no right answer to this question. We have found that some students approach this question from the perspective that people's jobs are more important than people's money. We try to point out that both the current workers and the retired investors are dependent on income from the corporation in order to survive. Nevertheless, some students will not budge from the belief that workers have a higher priority than suppliers of capital. Once this part of the discussion winds down, we like to shift to the issues of fiduciary responsibility. Even if students believe that the needs of the workers should take priority, a question remains concerning the portfolio manager's professional obligation. Given that he has been hired to protect the interests of the investors, how high a priority can be placed on another group that will be affected by a potential bankruptcy?

CP10-12.

The purpose of this project is to give students a better understanding of risk and return preferences. We have found that many student groups cannot reach a group consensus. We use this disagreement to illustrate why no single risk and return relationship is dominant in the market.

FINANCIAL REPORTING AND ANALYSIS PROJECTS**CP10-13.**

The response to this question will depend on the report that is reviewed by the student. Most students will discuss the operating characteristics of the company and will focus on the amount of the company's international operations.

CP10-14.

The response to this case will depend on the companies selected by the students.

CP10-15.

The response to this case will depend on new information reported by Harrah's.

CP10-16.

The times-interest-earned ratios have not changed much over the three years. This suggests that Harrah's ability to generate sufficient income to pay for its interest obligations has not changed much. The ratio was at its highest in 1996 meaning that was the year when Harrah had the least amount of risk associated with making its obligatory interest payments. The debt-to-equity ratio also has not changed very much over the past three years, suggesting that Harrah has used the same amount of leverage since 1995. The amount of debt has increased, but the amount of equity in the company has also increased:

1997	1996	1995
733	716	583.3

Similar to the times-interest-earned ratios, the debt-to-equity ratio was at its best in 1996. This is when it was the lowest and the company used the least amount of debt compared to its equity to finance its operations. Harrah's Entertainment had the least amount of risk in 1996 and it rose slightly in 1997. Overall, the company is still fairly low in risk. It should have enough money to pay its creditors the obligatory debt and interest payments when they come due.

CP10-17.

The response to this case will depend on new information reported by Harrah's.

Chapter 11

Reporting and Interpreting Owners' Equity

ANSWERS TO QUESTIONS

1. A Corporation is a separate legal entity (authorized by law to operate as an individual). It is owned by a number of persons and/or entities whose ownership is evidenced by shares of capital stock. Its primary advantages are: (a) transferability of ownership, (b) limited liability to the owners, and (c) the ability to accumulate large amounts of resources.
2. The charter of a corporation is a legal document from the state that authorized its creation as a separate legal entity. The charter specifies the name of the entity, its purpose, and the kinds and number of shares of capital stock it can issue.
3. (a) Authorized capital stock—the maximum number of shares of stock that can be sold and issued as specified in the charter of the corporation.
(b) Issued capital stock—the total number of shares of capital stock that have been issued by the corporation at a particular date.
(c) Unissued capital stock—the number of authorized shares of capital stock that have not been issued by the corporation.
(d) Outstanding capital stock—the number of shares currently owned by the stockholders.
4. Common stock—the usual or normal stock of the corporation. It is the voting stock and generally ranks after the preferred stock for dividends and assets distributed upon dissolution. Often it is called the residual equity. Common stock may be either par value or no-par value.

Preferred stock—when one or more additional classes of stock are issued, the additional classes are called preferred stock. Preferred stock has modifications that make it different from the common stock. Generally, preferred stock has both favorable and unfavorable features in comparison with common stock. Preferred stock usually is par value stock and usually specifies a dividend rate such as "6% preferred stock."

5. Par value is a nominal per share amount established for the common stock and/or preferred stock in the charter of the corporation, and is printed on the face of each stock certificate. The stock that is sold by a corporation to investors above par value is said to have sold at a premium, while stock that is sold below par is said to have sold at a discount. The laws of practically all states forbid the initial sale of stock by a corporation to investors below par value. No-par value stock does not have an amount per share specified in the charter. As a consequence, it may be issued at any price without involving a discount or a premium. It avoids giving the impression of a value that is not present.
6. The usual characteristics of preferred stock are: (1) dividend preferences, (2) conversion privileges, (3) asset preferences, and (4) nonvoting specifications.
7. The two basic sources of stockholders' equity are:
Contributed capital—the amount invested by stockholders by purchase from the corporation of shares of stock. It is comprised of two separate elements: (1) the par or stated amount derived from the sale of capital stock (common or preferred) and (2) the amount received in excess of par or stated value.
Retained earnings—the accumulated amount of all net income since the organization of the corporation, less losses and less the accumulated amount of dividends paid by the corporation since organization.
8. Owners' equity is accounted for in terms of source. This means that several accounts are maintained for the various sources of owners' equity, such as common stock, preferred stock, contributed capital in excess of par, and retained earnings.
9. Treasury stock is a corporation's own capital stock that was sold (issued) and subsequently reacquired by the corporation. Corporations frequently purchase shares of their own capital stock for sound business reasons, such as to obtain shares needed for employees' bonus plans, to influence the market price of the stock, to increase earnings per share amounts, and to have shares on hand for use in the acquisition of other companies. Treasury stock, while held by the issuing corporation, confers no voting, dividend, or other stockholder rights.
10. Treasury stock is reported on the balance sheet under owners' equity as a deduction; that is, as contra owners' equity. Any "gain or loss" on treasury stock that has been sold is reported on the financial statements as an addition to contributed capital if a gain; if a loss, it is deducted from any previous contributed capital, or otherwise from retained earnings.

11. The two basic requirements to support a cash dividend are: (1) cash on hand or the ability to obtain cash sufficient to pay the dividend and (2) a sufficient balance in retained earnings, because the dividend represents a return of earnings to the stockholders. A cash dividend reduces both the assets of a corporation and stockholders' equity by the amount of the dividend.
12. Cumulative preferred stock has a dividend preference such that, should the dividends on the preferred stock for any year, or series of years, not be paid, dividends cannot be paid to the common stockholders until all such dividends in arrears are paid to the preferred stockholders. Noncumulative preferred stock does not have this preference; therefore, dividends not paid in past periods will never be paid to the preferred stockholders.
13. A stock dividend involves the issuance to the stockholders of a dividend in the corporation's own stock (rather than cash). A stock dividend is significantly different from a cash dividend in that the corporation does not disburse any assets, while in the case of a cash dividend, cash is decreased by the amount of the dividend. A cash dividend also reduces total stockholders' equity by the amount of the dividend. In contrast, a stock dividend does not change total stockholders' equity.
14. The primary purposes in issuing a stock dividend are: (1) to maintain dividend consistency; that is, to pay dividends each year either in cash or in capital stock, (2) to capitalize retained earnings; that is, a stock dividend requires a transfer from the Retained earnings account to the permanent contributed capital accounts for the amount of the dividend. Although this transfer does not change stockholders' equity in total, it does cause a shift from retained earnings to contributed capital.
15. When a dividend is declared and paid, the three important dates are:
 Declaration date—the date on which the board of directors votes the dividend. In the case of a cash dividend, on this date a dividend liability comes into existence and must be recorded as a debit to Retained earnings and as a credit to Dividends payable.
 Date of record—this date usually is about one month after the date of declaration. It is the date on which the corporation extracts from its stockholders' records the list of individuals owning shares. The dividend is paid only to those names listed on the record date. No entry in the accounts is made on this date.
 Date of payment—the date on which the cash is disbursed to pay the dividend. It follows the date of record as specified in the dividend announcement. The entry to record the cash disbursement for the dividend is a debit to Dividends payable and a credit to Cash.

16. Total retained earnings is the accumulated amount of all net income of the corporation less all losses and less the accumulated amount of all dividends declared to date. The primary components of retained earnings are: beginning balance, plus net income, less losses, minus dividends declared, equals the ending balance. Prior period adjustments also are reported on the statement (see 17 below).
17. In special circumstances, the statement of retained earnings reports an item called prior period adjustments. Prior adjustments are:
 - (a) corrections of errors in the financial statements of prior periods and
 - (b) adjustments of certain income tax loss carryforwards.
 A prior period adjustment is reported on the Statement of Retained Earnings as a correction of the beginning balance.
18. A restriction removes a specified amount of retained earnings from availability for dividends until the restriction is removed. Restrictions on retained earnings may be voluntary or involuntary and may be reported as a separate item in the Statement of Retained Earnings or as a note to the statements.

Authors' Recommended Solution Time
 (Time in minutes)

Mini exercises		Exercises		Problems		Alternate Problems		Cases and Projects	
No.	Time	No.	Time	No.	Time	No.	Time	No.	Time
1	5	1	30	1	45	A1	45	1	30
2	5	2	30	2	45	A2	30	2	30
3	5	3	30	3	45	A3	30	3	20
4	5	4	30	4	60	A4	20	4	20
5	5	5	20	5	30	A5	50	5	20
6	5	6	20	6	30			6	20
7	5	7	45	7	30			7	30
8	5	8	15	8	45			8	25
9	5	9	30	9	20			9	25
10	5	10	15	10	30			10	25
		11	20	11	30			11	25
		12	20	12	45			12	40
		13	20					13	30
		14	30					14	25
		15	30					15	20
		16	30					16	*
		17	20					17	*
		18	30					18	*
		19	20					19	*
		20	15						
		21	15						

* Due to the nature of these cases and projects, it is very difficult to estimate the amount of time students will need to complete the assignment. As with any open-ended project, it is possible for students to devote a large amount of time to these assignments. While students often benefit from the extra effort, we find that some become frustrated by the perceived difficulty of the task. You can reduce student frustration and anxiety by making your expectations clear. For example, when our goal is to sharpen research skills, we devote class time discussing research strategies. When we want the students to focus on a real accounting issue, we offer suggestions about possible companies or industries.

MINI- EXERCISES

M11-1.

Stockholders may:

- a) Vote in the stockholders' meeting (or by proxy) on major issues concerning management of the corporation.
- b) Participate proportionately with other stockholders in the distribution of the corporation's profits.
- c) Share proportionately with other stockholders in the distribution of corporate assets upon liquidation.

Being able to vote is the most important of the rights because this ensures that the owners have an input at the stockholders' meeting and some control of the management of the corporation, thus enabling them to protect their rights as stockholders.

M11-2.

Unissued shares = 43,000

M11-3.

Cash (100,000 × \$75) (A)	7,500,000	
Common Stock (100,000 × \$1) (SE)		100,000
Capital in Excess of Par Value (SE)		7,400,000

The journal entry would be different if the par value were \$2:

Cash (100,000 × \$75) (A)	7,500,000	
Common Stock (100,000 × \$2) (SE)		200,000
Capital in Excess of Par Value (SE)		7,300,000

M11-4.

Common stock is the basic voting stock issued by a corporation. It ranks after preferred stock for dividends and assets distributed upon liquidation of the corporation. The dividend rate for common stock is determined by the board of directors, and is based on the company's profitability. The dividend rate for preferred stock is fixed by a contract. Common stock has more potential for growth than preferred stock if the company is profitable. On the other hand, the investor may lose more money with common stock than with preferred stock if the company is not profitable.

It is advisable to invest in the common stock. The company is similar to Wal-Mart, and will most likely be very profitable. Common stock will receive a higher return on the \$100,000 than preferred stock would.

M11-5.

	Assets	Liabilities	Stockholders' Equity	Net Income
1. Purchased 20,000 shares of treasury stock	Cash: decrease by \$900,000	No effect	Decrease by \$900,000	No effect
2. Sold 5,000 shares	Cash: increase by \$250,000	No effect	Increase by \$250,000	No effect
3. Sold 10,000 shares	Cash: increase by \$370,000	No effect	Increase by \$370,000	No effect

M11-6.

220,000 X \$0.50	=	\$110,000
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M11-7.

April 15 20A:		
Retained Earnings (SE).....	100,000	100,000
Dividends Payable (L)		
June 14, 20A:		
Dividends Payable (L)	100,000	100,000
Cash (A)		

M11-8.

Past Year	200,000 shares × \$2	=	\$400,000
Current Year	200,000 shares × \$2	=	\$400,000
Total to Preferred Stockholders			\$800,000

M11-9.

Stock Dividend	Stock Split
No change in assets	No change in assets
No change in liability	No change in liability
Increase in common stock	No change in Common Stock
No change in stockholders' equity: decrease retained earnings and permanent capital by the same amount.	No change in stockholders' equity
Decreases market value	Decrease in market value

M11-10.

Retained Earnings (SE).....	500,000	500,000
Common Stock (SE).....		

EXERCISES

E11-1.

Req. 1

a. Cash (6,000 shares × \$20) (A).....	120,000	
Common stock (6,000 shares × \$8) (SE).....		48,000
Contributed capital in excess of par, common stock (SE).....		72,000
Sold common stock at a premium.		
b. Land (600 shares × \$22) (A).....	13,200	
Common stock (600 shares × \$8) (SE).....		4,800
Contributed capital in excess of par, common stock (SE).....		8,400
Purchased land by issuing capital stock; recorded at market value of the stock.		
c. Cash (2,000 shares × \$23) (A).....	46,000	
Common stock (2,000 shares × \$8) (SE).....		16,000
Contributed capital in excess of par, common stock (SE).....		30,000
Sold common stock at a premium.		
d. Retained earnings (SE).....	7,000	
Income summary.....		7,000
Closing entry, to transfer loss for first year to Retained earnings.		

Req. 2

Stockholders' Equity	
Contributed capital:	
Common stock, par \$8, authorized 12,000 shares, outstanding 8,600 shares.....	\$ 68,800
Contributed capital in excess of par.....	110,400
Total contributed capital.....	179,200
Retained earnings (deficit)	(7,000)
Stockholders' equity.....	<u>\$172,200</u>

Req. 3

Sampson has a negative balance in retained earnings, which, in most cases, would preclude the payment of dividends. Dividends are a distribution of earnings to the owners. In the absence of earnings, dividends should not be paid.

E11-2.

(Note to instructor: These questions have been included to permit you to expand on the text's discussion of stock price reactions to information contained in accounting reports.)

Req. 1

Case 1: When companies unexpectedly announce increases in dividends, stock prices typically increase. Depending on course objective, the instructor may want to discuss research in finance concerning dividend policy.

Case 2: Stock price is based on expectations. If the increase in operating performance was not expected, the stock price should increase. It is not necessary to increase dividends to have a favorable stock price reaction.

Case 3: Stock dividends do not provide any economic value but they may have a signal effect and are often associated with increase in cash dividends. As a result, stock dividends do not appear to directly cause an increase in stock price but are often associated with factors that do impact favorably on price.

Req. 2

Stock prices react to underlying economic events and not changes in reporting methods, per se. Markets are relatively effective in recognizing the difference between profits generated by operations and profits generated by the use of liberal accounting policies.

E11-3.

Stockholders' Equity	
Contributed capital:	
Preferred stock, 6%, par \$10, authorized 50,000 shares, issued and outstanding, 15,000 shares.....	\$150,000
Common stock, par \$1, authorized 200,000 shares, issued and outstanding, 20,000 shares.....	20,000
Contributed capital in excess of par, preferred stock.....	225,000
Contributed capital in excess of par, common stock.....	380,000
Total contributed capital.....	\$775,000
Retained earnings*.....	30,000
Total stockholders' equity.....	<u>\$805,000</u>

*(\$40,000 - \$10,000 = \$30,000.)

E11-4.

Req. 1

Stockholders' Equity	
Contributed capital:	
Preferred stock, 7%, par \$10, authorized 5,000 shares, issued and outstanding, 3,000 shares	\$ 30,000
Common stock, no-par, stated value \$6, authorized 100,000 shares, issued and outstanding, 20,000 shares	120,000
Contributed capital in excess of par, preferred	36,000
Contributed capital in excess of stated value, no-par common	240,000
Total contributed capital	\$426,000
Retained earnings	38,000
Total Stockholders' Equity	\$464,000

Req. 2

The answer would depend on the profitability of Kelly and the stability of its earnings. The preferred stock has a 7% dividend rate. If Kelly earns more than 7%, the additional earning would accrue to the current stockholders. If Kelly earns less than 7%, it would have to pay a higher rate to the preferred stockholders.

E11-5.

Req. 1

a. Cash (12,000 shares x \$15) (A)	180,000	
Land (4,000 shares x \$15) (A)	60,000	
Common stock, no-par (16,000 shares) (SE)		240,000
Issued 16,000 shares of common stock, no-par, to organizers. Collected cash and received land.		
b. Cash (6,000 shares x \$40) (A)	240,000	
Common stock, no-par (6,000 shares x \$40) (SE)	240,000	
Sold 6,000 shares of common stock, no-par, at \$40 per share.		
c. Cash (8,000 shares x \$20) (A)	160,000	
Preferred stock (8,000 shares x \$10) (SE)	80,000	
Contributed capital in excess of par, preferred (SE)	80,000	
Sold 8,000 shares of preferred stock at \$20 per share.		
d. Income summary	36,000	
Retained earnings (SE)		36,000
Closing entry.		

E11-5. (continued)

Req. 2

The land was valued at the market value of the common stock issued to pay for it; this valuation is in accordance with the cost principle (4,000 shares x \$15 = \$60,000). The cash price per share paid by the other organizers is a reliable measure of the value of the land.

E11-6.

Req. 1

Number of preferred shares issued: \$104,000 ÷ \$20 = 5,200

Req. 2

Number of preferred shares outstanding: 5,200 shares issued minus 500 shares held as treasury stock = 4,700.

Req. 3

Average sale price per share of preferred stock when issued: (\$104,000 + \$14,300) ÷ 5,200 shares = \$22.75.

Req. 4

Decreased corporate resources by \$9,500 - \$1,500 = \$8,000.

Req. 5

Treasury stock transactions decreased stockholders' equity by \$9,500 - \$1,500 = \$8,000 (same as the decrease in corporate resources in 4 above).

Req. 6

Treasury stock, preferred, cost per share: \$9,500 ÷ 500 shares = \$19.00.

Req. 7

Total stockholders' equity: \$104,000 + \$600,000 + \$14,300 + \$1,500 + \$30,000 - \$9,500 = \$740,300.

Req. 8

Average issue price of common stock, \$600,000 ÷ 8,000 shares = \$75.

Req. 9

\$9,500 x 3/4 = \$7,125 (one-fourth of the cost of the treasury shares is removed from the treasury stock account; the sale price, \$35 per share, is debited to cash).

E11-7.

Req. 1

It is not possible to determine the exact number of shares outstanding because we cannot calculate the number of shares in treasury stock. We can determine the number of shares that have been issued, which is computed by dividing the common stock account (\$1,320 million) by the stated value of the shares (\$1 per share) or approximately 1,320,000,000 shares. Despite the fact that students cannot give an exact answer, they should be able to make an approximation and recognize that the number of shares outstanding is less than 1,320,000,000.

Req. 2

Retained earnings end of 1998	\$11,144,000,000
Net income for 1999	3,763,000,000
Dividends for 1999	(1,157,900,000)
Retained earnings end of 1999	\$13,749,100,000

The amount of retained earnings is an estimate because we do not know the exact number of shares outstanding. This number is needed to determine the amount of dividends paid during 1999. We have shown the actual amount of dividends that were paid. Most students will estimate \$1,504,800,000 (\$1.14 X 1,320,000,000 shares).

Req. 3

The number of shares that were issued did not change during 1999 because the amount in the common stock remained constant. The value of the treasury stock account increased, which indicates that additional shares of treasury stock were purchased. As a result, the number of shares outstanding declined.

E11-8.

Req. 1

Feb. 1, 20C:

Treasury stock, common (200 shares x \$22) (XSE)	4,400	
Cash (A)		4,400
Purchased 200 shares of treasury stock at \$22 per share.		

July 15, 20C:

Cash (100 shares x \$24) (A)	2,400	
Treasury stock, common (100 shares x \$22) (XSE)		2,200
Contributed capital, treasury stock transactions (SE)		200
Sold 100 shares of treasury stock at \$24 per share.		

Sept. 1, 20C:

Cash (60 shares x \$20) (A)	1,200	
Contributed capital, treasury stock transactions (SE)	120	
Treasury stock, common (60 shares x \$22) (SE)		1,320
Sold 60 shares of treasury stock at \$20 per share.		

E11-8. (continued)

Req. 1 (continued)

Dec. 15, 20C:

Cash (20 shares x \$15) (A)	300	
Contributed capital, treasury stock transactions	80	
(reduces account balance to zero) (SE)		
Retained earnings (SE)	60	
Treasury stock (XSE)		440
Sold 20 shares of treasury stock.		

Req. 2

Dividends are not paid on treasury stock. Therefore, the amount of cash dividends paid is reduced when treasury stock is purchased.

Req. 3

The sale of treasury stock for more or less than its original purchase price does not have an impact on net income. The transaction affects only balance sheet accounts. The sale of treasury stock is a cash inflow which would affect the SCF.

E11-9.

Computation of treasury stock:

Balance at end of 1997	380,474,028
Shares sold in 1997	(5,047,286)
Balance at end of 1998	375,426,742

Computation of shares outstanding:

Balance at end of 1997	2,805,961,317
Treasury stock	(375,426,742)
Balance at end of 1998	2,430,534,575

E11-10.

	Preferred (6,000 Shares)	Common (40,000 Shares)	Total
Req. 1			
a) Noncumulative:			
Preferred (\$60,000 x 8%)	\$ 4,800		\$ 4,800
Balance to common (\$62,000 - \$4,800)		\$57,200	57,200
	<u>\$ 4,800</u>	<u>\$57,200</u>	<u>\$62,000</u>
Per share	\$0.80	\$1.43	
b) Cumulative:			
Preferred, arrears (\$60,000 x 8% x 2 years)	\$ 9,600		\$ 9,600
Preferred, current year (\$60,000 x 8%)	4,800		4,800
Balance to common (\$62,000 - \$9,600 - \$4,800)		\$47,600	47,600
	<u>\$14,400</u>	<u>\$47,600</u>	<u>\$62,000</u>
Per share	\$2.40	\$1.19	
	a	b	
Retained earnings (preferred)	4,800	14,400	
Retained earnings (common)	57,200	47,600	
Cash	62,000	62,000	

Req. 2

The total dividend amount and dividends per share of common stock was less under the second assumption because the preferred stock preferences increased while at the same time the total dividend amount remained stable.

Req. 3

The higher the total dividend distribution the more favorable it would be for the common stockholders.

E11-11.

The fact that dividends are in arrears indicates that Mission Critical Software, Inc. was experiencing some financial difficulty. Most companies do not want to suspend dividend payments because it will erode investor confidence. Typically, companies are experiencing severe cash flow problems when they take this type of drastic action. The student assumed that he would get a large cash payment "when Mission Critical Software, Inc. started paying dividends again." The student should have realized that he was making a large assumption; a financially troubled company may never pay dividends again.

E11-12.

Item	Effect of Cash Dividend (Preferred)	Effect of Stock Dividend (Common)
Assets	-No effect on declaration date. -Decreased by the amount of the dividend (\$7,200) on payment date.	No effect because no assets are disbursed.
Liabilities	-Increased on declaration date (\$7,200). -Decreased on payment date (\$7,200).	No effect—no entry on declaration date because no contractual liability is created (no assets are disbursed).
Stockholders' equity	Decreased by the amount of the dividend (retained earnings decreased by \$7,200).	-Total stockholders' equity not changed. -Retained earnings reduced and permanent capital increased by same amount (\$96,000).

E11-13.

July 15		
Retained earnings (SE)	119,900,000	
Cash (A)		119,900,000
Payment of preferred dividends		
Retained earnings (SE)	691,688,600	
Cash (A)		691,688,600
Payment of common dividends		
Computation of shares outstanding:		
Shares issued	387,514,300	
Treasury stock	<u>41,670,000</u>	
Shares outstanding		345,844,300

Dividends paid:

345,844,300 x \$2 = \$691,688,600

E11-14.

Req. 1

	Stockholders' Equity	
	Before Stock Dividend	After Stock Dividend
Contributed capital:		
Common stock, par \$10, authorized 60,000 shares		
Outstanding: 25,000 shares, par \$10	\$250,000	
Outstanding: 28,000 shares, par \$10		\$280,000
Contributed capital in excess of par value	12,000	36,000(a)
Retained earnings	75,000	21,000(b)
Total stockholders' equity	<u>\$337,000</u>	<u>\$337,000</u>

Computations:

- (a) 3,000 additional shares x (\$18 - \$10) = \$24,000; \$24,000 + \$12,000 = \$36,000
 (b) \$75,000 - (3,000 shares x \$18) = \$21,000

Req. 2

Item	Effects of Stock Dividend
Assets	No change because no assets were disbursed.
Liabilities	No change because no liability was created (no assets were to be disbursed).
Stockholders' equity	-Total stockholders' equity not changed. -Retained earnings was reduced by the amount of the dividend (\$54,000). -Permanent capital was increased by the same amount (i.e., \$30,000 + \$24,000 = \$54,000).

E11-15.

Req. 1

Assets	-\$15,000,000
Stockholders' Equity	-\$15,000,000

The treasury stock account is a contra equity account, meaning that it subtracts from the total stockholder's equity. Cash also decreases on the balance sheet by the same amount.

E11-15. (continued)

Req. 2

Winnebago may have decided to repurchase its stock in order to develop an employee bonus plan that provides workers with shares of the company's stock as part of their compensation. Because of SEC regulations concerning newly issued shares, many companies find it cheaper to give their employees shares of stock that were purchased from stockholders than to issue new shares.

Req. 3

Shares that are held in treasury stock do not participate in dividend payments. As a result, the purchase of treasury stock will reduce the amount of dividends that Winnebago must pay in future years.

E11-16.

Req. 1

BLAKE CORPORATION Statement of Retained Earnings For the Year Ended December 31, 20E	
Retained earnings:	
Balance, January 1, 20E	\$76,000
Prior period adjustment:	
Prior period adjustment, correction of error (net of income tax)	(8,000)
Beginning balance adjusted	\$68,000
Net income, 20E	28,000
Total	\$96,000
Less: Dividends, 20E	18,000
Retained earnings balance, December 31, 20E (see Note)	<u>\$78,000</u>

Note: Restriction on retained earnings, \$20,000, equivalent to the cost of treasury stock held.

Req. 2

Stockholders' Equity—December 31, 20E	
Contributed capital:	
Common stock, par \$15, authorized 100,000 shares, issued	
35,000 shares, of which 1,000 shares are held as treasury stock	\$525,000
Contributed capital in excess of par	180,000
Total contributed capital	\$705,000
Retained earnings (per above statement)	78,000
Total	\$783,000
Less: Cost of treasury stock (1,000 shares x \$20)	20,000
Total Stockholders' Equity	<u>\$763,000</u>

E11-16. (continued)

Req. 3

The dividend yield ratio is 2.36%. While this yield seems small when compared to some alternative investment (such as a savings account), it is very typical of investments in common stock. Investors receive a return from both dividends and stock price appreciation.

Treasury stock does not receive dividends. As a result, dividends should be paid on 34,000 shares.

E11-17.

Retained earnings (SE).....	10,499,760	
Dividends payable (L).....		10,499,760
87,498,000 shares x \$0.12 = \$10,499,760		

December 17, 1999

No journal entry required.

December 31, 1999

Dividends payable (L).....	10,499,760	
Cash (A).....		10,499,760

E11-18.

Req. 1

Number of issued shares (200,000 – 50,000) = 150,000.

Req. 2

Number of outstanding shares—same as issued because there is no treasury stock; that is, 150,000 shares.

Req. 3

Stockholders' equity:	
Common stock (150,000 shares x \$1).....	\$150,000
Contributed capital in excess of par (given).....	88,000
Retained earnings (given).....	72,000
Total stockholders' equity.....	<u>\$310,000</u>

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E11-18. (continued)

Req. 4

Stock dividend (10%):

Retained earnings (150,000 shares x 10% x \$4) (SE).....	60,000	
Common stock (150,000 shares x 10% x \$1) (SE).....		15,000
Contributed capital in excess of par (150,000 shares x 10%) x (\$4 – \$1) (SE).....		45,000

Req. 5

Stock split 6 to 5 (20% increase). No entry is required because the total par value is the same after the split as before and no retained earnings are capitalized. After the split, outstanding shares will be increased to 150,000 x 1.20 = 180,000, and par value per share will be reduced to \$1.00 ÷ 1.20 = \$.83.

Req. 6

Comparative results:

Items	Before Dividend and Split	After Stock Dividend	After Stock Split
Common stock acct.	\$150,000	\$165,000	\$150,000
Par per share	\$1	\$1	\$.83 (rounded)
Shares outstanding	#150,000	#165,000	#180,000
Cont. capital in excess of par	\$ 88,000	\$133,000	\$ 88,000
Retained earnings	\$ 72,000	\$ 12,000	\$ 72,000
Total stockholders' equity	\$310,000	\$310,000	\$310,000

Comments: Neither the stock dividend nor stock split changed total stockholders' equity (\$310,000) because neither involved the disbursement of assets. The stock dividend capitalized \$60,000 of retained earnings and increased permanent capital by the same amount (\$15,000 + \$45,000 = \$60,000); it increased shares outstanding by 10% but did not change par value per share. The stock split did not change any account balances; its only effects were to (1) increase shares outstanding by 20% and (2) decrease par value per share from \$1.00 to \$.83.

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E11-19.

Req. 1

A corporation does not need to earn net income in a given year in order to declare and pay dividends. There are two requirements 1) the balance of retained earnings should be sufficient to pay dividends, and 2) there must be sufficient cash on hand.

Req. 2

Clearly the board determined that the balances in retained earnings and cash were sufficient to pay dividends. The board probably analyzed cash flow for the current year and the future to determine whether the payment of dividends would create any problems in subsequent years. The board also probably took into consideration the impact of skipping a dividend. If the company did not pay a dividend, many investors might assume that the board concluded that the company might lose money for several years. This lack of confidence could have a significant impact on the price of the company's stock. By paying a dividend, the company sent a signal to the market that the board had confidence in the long-term health of the company.

E11-20.

Req. 1

Cinergy is a utility company that is very established. They have very little opportunity for growth and they have stable business operations. Therefore, they have the ability to have a high dividend yield. On the other hand, Starbucks is a fairly new company with a high opportunity for growth. Due to the fact that they are retaining all of their earnings to invest into their growth, they have a 0.0% dividend yield.

Req. 2

The companies will attract two different types of investors. Cinergy will attract investors who want and / or need current income, such as someone who is retired. Starbucks will attract investors who want appreciation on their stock price, such as someone who is planning for their retirement in 25 years.

E11-21.

Traditionally, the dividend payout ratio is based on earnings and calculated using net income. Since dividends are paid using cash, the amount of cash available is also important. Both earnings and cash are necessary for the payment of dividends. So, even though the dividend payout ratio is historically calculated using net income, it is also reasonable to consider the amount of cash available.

PROBLEMS

P11-1.

1. Shares authorized (given).....	200,000
Shares issued (\$2,125,000 ÷ \$17).....	125,000
Shares outstanding (125,000 – 3,000).....	122,000
2. Contributed capital in excess of par: \$2,125,000 – (125,000 shares issued x \$10 par) = \$875,000.	
3. EPS on net income: \$118,000 ÷ 122,000 shares = \$.97 (rounded).	
4. Dividend per share: \$73,200 ÷ 122,000 shares = \$0.60.	
5. Net income before extraordinary items: \$118,000 – \$12,000 = \$106,000.	
6. Prior period adjustment: Report on statement of retained earnings, addition (i.e., a gain) to the beginning balance.	
7. Treasury stock: Stockholders' equity, as a deduction in the amount of 3,000 shares x \$20 cost = \$60,000.	
8. Retained earnings available for dividends: \$155,000 – \$60,000, cost of treasury stock per 7 = \$95,000. Note that the treasury stock was held on January 1, 20E, and throughout 20E.	
9. Stock split, 100%: Par value per share after the split, \$10 ÷ 2 = \$5. Outstanding shares before split (per 1 above), 122,000 x 2 = 244,000 shares outstanding after the split.	
10. Entry for the stock split—None, because the total par value amount before and after the split is the same; retained earnings are not capitalized in a stock split.	
11. Entry for stock dividend (capitalize retained earnings for market value of \$21 per share):	
Retained earnings (122,000 shares x 10% x \$21) (SE).....	256,200
Common stock (122,000 shares x 10% x \$10) (SE).....	122,000
Contributed capital in excess of par (122,000 shares x 10%) x (\$21 – \$10)(SE).....	134,200

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P11-2.

Req. 1

Stockholders' Equity—December 31, 20A

Contributed capital:	
Preferred stock, 8%, par \$10, authorized 20,000 shares; issued and outstanding, 6,000 shares	\$ 60,000
Common stock, par \$8, authorized 50,000 shares; issued and outstanding, 43,000 shares	344,000
Contributed capital in excess of par, preferred	58,000
Contributed capital in excess of par, common	138,000
Total contributed capital	\$600,000
Retained earnings	48,000
Total stockholders' equity	\$648,000

Req. 2

Average issue price of the common stock:

$$(\$344,000 + \$138,000) \div (40,000 + 3,000 \text{ shares}) = \$11.21 \text{ (rounded).}$$

Req. 3

Under the cost principle the cost of the legal services is the market value of the stock given up, which is the \$11 price paid by the other organizers.

P11-3.

Req. 1

(a) Cash (40,000 shares x \$9)(A)	360,000	
Land (20,000 shares x \$9 x 70%)(A)	126,000	
Building (20,000 shares x \$9 x 30%)(A)	54,000	
Common stock, no-par (60,000 shares x \$5, stated value)(SE)		300,000
Contributed capital in excess of stated value, no-par common (60,000 x \$4)(SE)		240,000
Sold and issued 60,000 shares of common stock, no-par, at \$9 per share.		
(b) Cash (6,000 shares x \$18)(A)	108,000	
Preferred stock (6,000 shares x \$10)(SE)		60,000
Contributed capital in excess of par, preferred (SE)		48,000
Sold and issued 6,000 shares of preferred stock at \$18 per share.		

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P11-3. (continued)

Req. 1 (continued)

(c) Cash (500 shares x \$20) + (1,000 shares x \$12)(A)	22,000	
Preferred stock (500 shares x \$10)(SE)		5,000
Common stock, no-par (1,000 shares x \$5)(SE)		5,000
Contributed capital in excess of par, preferred (SE)		5,000
Contributed capital in excess of stated value, no-par common (SE)		7,000
Sold and issued 500 shares of preferred at \$20 per share and 1,000 shares of common at \$12 per share.		
(d) Closing entries:		
Revenues (R)	220,000	
Expenses (E)		160,000
Income summary		60,000
Income summary	60,000	
Retained earnings (SE)		60,000

Req. 2

Under the cost principle the cost of the noncash assets received were valued at the current market value of the shares issued. The cash price per share paid by the other organizers is the market value for this purpose. The total cost is allocated between the land and building on a reliable basis (given).

P11-4.

Req. 1

Case A—\$25 Par Value Common Stock	
(a) Cash (9,000 shares x \$60)(A)	540,000
Common stock (9,000 shares x \$25)(SE)	225,000
Contributed capital in excess of par (SE)	315,000
Sold and issued common stock at \$60 per share.	
(b) Land, future plant site (600 shares x \$66)(A)	39,600
Common stock (600 shares x \$25)(SE)	15,000
Contributed capital in excess of par (SE)	24,600
Purchased land; issued stock in payment. Stock valued at market of \$66 per share under the cost principle.	
(c) Income summary	48,000
Retained earnings (R)	48,000
Closing entry.	

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P11-4. (continued)

Req. 1 (continued)

Case B—No-par Common Stock and No Stated Value

(a) Cash (A)	540,000	
Common stock, no-par (9,000 shares)(SE)		540,000
Sold and issued common stock, no-par and no stated value, at \$60 per share.		
(b) Land, future plant site (A)	39,600	
Common stock, no-par (600 shares)(SE)		39,600
Purchased land; issued stock in full payment. Stock valued at market of \$66 per share.		
(c) Same as Case A		

Case C—No-par Common Stock and Stated Value of \$15

(a) Cash (A)	540,000	
Common stock, no-par, stated value \$15 (9,000 shares x \$15)(SE)		135,000
Contributed capital in excess of stated value (SE)		405,000
Sold common stock, stated value \$15, at \$60 per share.		
(b) Land, future plant site (A)	39,600	
Common stock, no-par, stated value \$15 (600 shares x \$15)(SE)		9,000
Contributed capital in excess of stated value (SE)		30,600
Purchased land; issued stock in full payment. Stock valued at market of \$66 per share.		
(c) Same as Case A.		

Req. 2

Total stockholders' equity should be the same for each of the three independent cases because the value of the resources received by the company was unchanged; only the "source" amounts within stockholders' equity are different.

Req. 3

The noncash asset (land) is recorded at cost under the cost principle which is measured as the market value of the shares issued. The market value per share of \$66 was the same in each case.

Req. 4

In most cases, stockholders should not care whether stock is issued as par, no-par, or stated value stock. The various types of stock do not offer any real economic advantages to investors.

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P11-5.

Req. 1

Stockholders' Equity—December 31, 20A

Contributed capital:	
Common stock, par \$10, authorized 200,000 shares; issued 60,000 shares, of which 500 shares are held as treasury stock	\$600,000
Contributed capital in excess of par, common	120,000
Contributed capital, treasury stock transactions (\$3,000 - \$500)	2,500
Total contributed capital	\$722,500
Retained earnings	38,200
Total	\$760,700
Less: Treasury stock held (500 shares x \$15)	7,500
Total stockholders' equity	\$753,200

Req. 2

Assets (cash): \$30,000 - \$18,000 - \$7,000 = \$5,000 decrease.

Liabilities: No effect.

Stockholders' equity: \$30,000 - \$15,000 - \$3,000 - \$7,500 + \$500 = \$5,000 decrease.

Assets and stockholders' equity decreased by the same amount because that is the net amount of assets (cash) disbursed by the corporation. Note that 500 of the shares of the treasury stock purchased for cash have not been resold.

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P11-6.

(a)	Treasury Stock (XSE).....	3,500,000	
	Cash (A)		3,500,000
(b)	Retained Earnings (SE).....	254,200,000	
	Dividends Payable (L)		254,200,000
	Dividends Payable (L)	254,200,000	
	Cash (A)		254,200,000
(c)	Retained Earnings (SE).....	556,300,000	
	Common Stock (SE).....		556,300,000

P11-7.

Req. 1

A stock dividend is a dividend paid in additional stock of the issuing company while a cash dividend is paid in cash.

Req. 2

Stock dividends are classified as either large or small. A *large* stock dividend involves the distribution of additional shares that are more than 20–25% of the currently outstanding shares. A *small* stock dividend involves additional shares that are less than 20–25% of the outstanding shares.

Req. 3

The sale of treasury stock for more than cost has no impact on the reported income for a company. The sale does affect the SCF because it is an inflow of cash from financing activities.

Req. 4

There are a number of strategic reasons why a corporation may want to purchase its own stock from existing stockholders. A common reason is the existence of an employee bonus plan that provides workers with shares of the company's stock as part of their compensation. Because of Securities and Exchange Commission regulations concerning newly issued shares, most companies find that it is less costly to give their employees shares of stock that were purchased from stockholders than to issue new shares.

P11-8.

Req. 1

Case A—Preferred is noncumulative (total amount to distribute, \$30,000):

	Preferred (6,000 shares)	Common (30,000 shares)	Total
Preferred (\$60,000 x 7%).....	\$ 4,200		\$ 4,200
Balance to common (\$30,000 – \$4,200)		\$25,800	25,800
	<u>\$ 4,200</u>	<u>\$25,800</u>	<u>\$30,000</u>
Per share	\$.70	\$.86	

Case B—Preferred is cumulative (total amount to distribute, \$12,600):

Preferred:			
Arrears (\$60,000 x 7% x 2 years)	\$ 8,400		\$ 8,400
Current year (\$60,000 x 7%)	4,200	–0–	4,200
	<u>\$12,600</u>	<u>–0–</u>	<u>\$12,600</u>
Per share	\$2.10	\$ –0–	

Case C—Preferred is cumulative (total amount to distribute, \$66,000):

Preferred:			
Arrears (\$60,000 x 7% x 2 years)	\$ 8,400		\$ 8,400
Current year (\$60,000 x 7%)	4,200		4,200
Balance to common (\$66,000 – \$12,600)		\$53,400	53,400
	<u>\$12,600</u>	<u>\$53,400</u>	<u>\$66,000</u>
Per share	\$2.10	\$1.78	

Req. 2

Dec. 31, 20E:

Retained earnings (30,000 shares x 10% x \$24)	72,000	
Common stock (3,000 shares x \$8)		24,000
Contributed capital in excess of par, common		48,000
Issued a 10% common stock dividend.		

P11-8. (continued)

Req. 2 (continued)

Schedule of Comparative differences (with comments)		
Item	Amount of Dollar Increase (Decrease)	
	Cash Dividend – Case C	Stock Dividend
Assets	\$66,000 decrease	No assets were disbursed.
Liabilities	Current liabilities increased \$66,000 on declaration date and decreased \$66,000 on payment date. The net effect is zero.	No effect – no contractual liability was created.
Stockholders' equity	\$66,000 decrease (debit to retained earnings).	No effect on total stockholders' equity. Decreased retained earnings and increased permanent capital by same amount, \$72,000.

Summary comment:

- (1) A cash dividend decreases assets and stockholders' equity by the amount of the dividend because resources were disbursed.
- (2) A stock dividend does not change total assets or total stockholders' equity because no resources are disbursed; only the internal content of stockholders' equity is changed.

P11-9.

Req. 1

David feels some concern about whether Dana is looking in the right place on the SCF for dividends. He shouldn't be concerned; dividends paid are reported in the financing activities section of the SCF.

Changes in accounts receivable and inventory are included in the computation of cash flows from operating activities. David is wrong when he states that the company invested its operating cash flows in inventory and receivables.

Req. 2

Compaq is experiencing rapid growth and is investing heavily in new property. Many rapidly growing companies do not pay dividends so that they can use available cash flows for expansion.

P11-10.

Item	Comparative Effects Explained	
	Cash Dividend on Preferred	Stock Dividend on Common
a) Through December 31, 20B:		
Assets	None—No cash yet disbursed.	None—No entry (no assets to be disbursed).
Liabilities	Increased current liability by the amount of the dividend (\$40,000).	None—No entry made on declaration date.
Stockholders' equity	Decreased by the amount of the dividend.	None—No entry.
b) On February 15, 20C:		
Assets	Decreased by the amount of the dividend liability (credit cash \$40,000).	None—No assets are disbursed.
Liabilities	Decreased by the amount of the cash payment (debit dividends payable \$40,000).	None—No liability was created.
Stockholders' equity	No change since Dec. 31, 20B. The effect was recorded in 20B.	(1) Total stockholders' equity not changed. (2) Retained earnings reduced by the amount of the dividend (i.e., market value of the stock issued, \$210,000). (3) Permanent capital increased by the amount of the dividend.
c) Overall Effects From December 1, 20B, through February 15, 20C:		
Assets	Decreased \$40,000.	No effect.
Liabilities	No effect.	No effect.
Stockholders' equity	Decreased \$40,000.	No effect on total.

P11-11.

Req. 1

September 16, 1999		
Retained earnings (SE).....	\$50,000	
Dividends payable (L).....		\$50,000
No journal entry is required for the declaration of a stock dividend.		
October 4, 1999		
No journal entry is required.		
October 12, 1999		
Dividends payable (L).....	\$50,000	
Cash (A).....		\$50,000
October 26, 1999		
Retained earnings (SE).....	\$500,000	
Common stock (SE).....		\$500,000

The stock dividend for Adobe Systems is properly classified as a large stock dividend which means that retained earnings should be capitalized based on the par value of the stock.

Req. 2

This simple question can give the instructor an excellent opportunity to discuss the relevancy of dividends policy. There is a strong theoretical argument to be made that dividend policy is irrelevant. There are several real world factors that make the question more difficult to answer (e.g., the impact of taxes, information content of dividends, and the clientele effect). The level of the discussion of this issue will depend on the amount of finance that has been introduced during the instructor's lectures.

Req. 3

The board must consider the balance of retained earnings and cash before declaring a cash dividend. In addition, the board probably considered the impact of the stock dividend and the increase in cash dividends on the price of the stock. They made the decision with the expectation that it would have a favorable impact on the long-term value of the stock.

P11-12.

Req. 1

Case A: Sole Proprietorship, closing entries:

A, Capital	20,000	
Income summary.....		20,000
A, Capital	8,000	
A, Drawings		8,000

Case B: Partnership, closing entries:

A, Capital	10,000	
B, Capital	10,000	
Income summary.....		20,000
A, Capital	5,000	
B, Capital	9,000	
A, Drawings		5,000
B, Drawings		9,000

Case C: Corporation, closing entry:

Retained earnings	20,000	
Income summary.....		20,000

P11-12. (continued)

Req. 2

Case A: Sole Proprietorship

Statement of Owner's Equity

A, Capital, January 1, 20W	\$50,000	
Less: Net loss	20,000	
Total.....	\$30,000	
Less: Withdrawals	8,000	
A, Capital, December 31, 20W.....		<u>\$22,000</u>

Case B: Partnership

Partners' Equity

A, Capital	\$25,000	
B, Capital	19,000	
Total Partners' Equity.....		<u>\$44,000</u>

Statement of Partners' Equity

	A	B	Total
Partners' equity, January 1, 20W	\$40,000	\$38,000	\$78,000
Deduct: Net loss	10,000	10,000	20,000
Total.....	\$30,000	\$28,000	\$58,000
Deduct: Withdrawals	5,000	9,000	14,000
Partners' Equity, December 31, 20W.....	<u>\$25,000</u>	<u>\$19,000</u>	<u>\$44,000</u>

Case C: Corporation

Stockholders' Equity

Contributed capital:	
Capital stock, par \$10, authorized 30,000 shares, outstanding 15,000 shares.....	\$150,000
Contributed capital in excess of par	5,000
Total contributed capital	<u>\$155,000</u>
Retained earnings	45,000*
Total Stockholders' Equity	<u>\$200,000</u>

Statement of Retained Earnings

Retained earnings, balance Jan. 1, 20W	\$65,000
Less: Net loss for 20W	20,000
Retained earnings, balance Dec. 31, 20W.....	<u>\$45,000</u>

ALTERNATE PROBLEMS

AP11-1.

Req. 1

Common Stock \$1,500,000 / \$1	=	1,500,000 shares
--------------------------------	---	------------------

Issued Shares	1,500,000
Treasury Stock	(100,000)
Shares Outstanding	1,400,000

Req. 2

The balance in the contributed capital in Excess of Par Account appears to be \$118,500,000. ((\$80-\$1) x 1,500,000 shares)

Req. 3

EPS on net income is \$3.43. * rounded
\$4,800,000 / 1,400,000 shares = \$3.43

Req. 4

Total dividends paid on common stock during 20C is \$2,800,000.
1,400,000 shares x 2.00 per share = \$2,800,000

Req. 5

Treasury stock should be reported on the balance sheet under the major caption Stockholders' Equity, as a deduction in the amount of \$6,000,000.
100,000 shares x 60 per share = \$6,000,000

Req. 6

Assume the board of directors voted a 100 percent stock split (the number of shares will double.) After the split, the par value per share will be \$0.50, and the number of outstanding shares will be 2,800,000.
Par value of \$1.00 / 2 = \$0.50
Outstanding shares before split 1,400,000 * 2 = 2,800,000

AP11-1. (continued)

Req. 7

Disregard the stock split (assumed in Req. 6). Assume instead that a 10% stock dividend was declared and issued when the market price of the common stock was \$21.

Retained Earnings (SE)	\$2,940,000	
Common Stock (SE)		\$140,000
Contributed Capital in excess of Par (SE)		\$2,800,000

Stock dividends do not affect stockholders' equity because the dividend decreases retained earnings and permanent capital by the same amount.

AP11-2.

Req. 1

(a) Cash (30,000 shares x \$40) + (5,000 shares x \$26) (A).....	1,330,000	
Common stock, no-par (30,000 shares x \$40) (SE).....		1,200,000
Preferred stock (5,000 shares x \$5) (SE).....		25,000
Contributed capital in excess of par, preferred (5,000 shares x \$21) (SE).....		105,000
Sold capital stock.		
(b) Land, for future plant site (2,000 shares x \$26) (A).....	52,000	
Preferred stock (2,000 shares x \$5) (SE).....		10,000
Contributed capital in excess of par, preferred (2,000 shares x \$21) (SE).....		42,000
Purchased plant site; paid in full by issuing preferred stock valued at \$26 per share.		
(c) Treasury stock, no-par common (3,000 shares x \$38) (XSE)	114,000	
Cash (A).....		114,000
Purchased treasury stock, no-par common, at \$38 per share.		
(d) Cash (3,000 shares x \$39) (A).....	117,000	
Treasury stock, no-par common (3,000 shares x \$38) (XSE).....		114,000
Contributed capital, treasury stock transactions (SE).....		3,000
Sold treasury stock, no-par common, at \$39 per share.		

AP11-2. (continued)

Req. 1 (continued)

(e) Treasury stock, preferred (1,000 shares x \$28) (XSE).....	28,000	
Cash (A).....		28,000
Purchased treasury stock, preferred, at \$28 per share.		
(f) Income summary.....	33,500	
Retained earnings (SE).....		33,500
Closing entry for net income.		

Req. 2

In our view, there is very little economic difference between acquiring an asset for cash compared with issuing new stock. In terms of accounting, the acquired asset is recorded at its fair market value without regard to the nature of the consideration that is paid. Some students see the issuance of stock to have no real cost to the corporation because it is simply issuing a piece of paper. The payment of cash seems to have a higher economic cost because of the value of money. The issuance of new stock has an economic cost that is as real as giving up an asset to acquire another asset.

AP11-3.

Req. 1

Stockholders' Equity—December 31, 20A

Contributed capital:	
Common stock, par \$5 authorized 1,000,000 shares; issued 700,000 shares, of which 20,000 shares are held as treasury stock.....	\$ 3,500,000
Contributed capital in excess of par, common.....	34,300,000
Total contributed capital.....	37,800,000
Retained earnings.....	404,000
Total.....	38,204,000
Less: Treasury stock held (20,000 shares x \$50).....	1,000,000
Total stockholders' equity.....	\$37,204,000

Req. 2

Assets (cash): \$1,250,000 - \$225,000 = \$1,025,000 decrease.

Liabilities: No effect.

Stockholders' equity: \$1,250,000 - \$250,000 + \$25,000 = \$1,025,000 decrease.

Assets and stockholders' equity decreased by the same amount because that is the net amount of assets (cash) disbursed by the corporation. Note that 20,000 of the shares of the treasury stock purchased for cash have not been resold.

AP11-4.

a. Retained earnings (SE).....	374,000,000	
Dividends payable (L).....		374,000,000
b. Cash (A).....	157,000,000	
Preferred stock (SE).....		157,000,000
c. Cash (A).....	10,000,000	
Treasury stock (XSE).....		8,000,000
Paid-in capital (SE).....		2,000,000
d. Retained earnings (SE).....	206,000,000	
Common stock (SE).....		206,000,000

AP11-5.

Req. 1

Case A—Preferred is noncumulative (total amount to distribute, \$25,000):

	Preferred (21,000 shares)	Common (500,000 shares)	Total
Preferred (\$210,000 x 8%).....	\$16,800		\$16,800
Balance to common (\$500,000 - \$16,800).....		\$8,200	8,200
	<u>\$16,800</u>	<u>\$8,200</u>	<u>\$25,000</u>
Per share.....	\$.80	\$.016	

Case B—Preferred is cumulative (total amount to distribute, \$25,000):

Preferred:		
Arrears (\$210,000 x 8% x 2 years = \$33,600).....	\$25,000	\$25,000
Current year (\$210,000 x 8%).....		-0-
	<u>\$25,000</u>	<u>\$25,000</u>
Per share.....	\$1.19	\$-0-

Case C—Preferred is cumulative (total amount to distribute, \$75,000):

Preferred:		
Arrears (\$210,000 x 8% x 2 years).....	\$33,600	\$33,600
Current year (\$210,000 x 8%).....	16,800	16,800
Balance to common (\$75,000 - \$50,400).....		24,600
	<u>\$50,400</u>	<u>\$24,600</u>
Per share.....	\$2.40	\$.049

AP11-5. (continued)

Req. 2

Schedule of Comparative differences (with comments)		
Item	Amount of Dollar Increase (Decrease)	
	Cash Dividend - Case C	Stock Dividend
Assets	\$75,000 decrease	No assets were disbursed.
Liabilities	Current liabilities increased \$75,000 on declaration date and decreased \$75,000 on payment date. The net effect is zero.	No effect - no contractual liability was created.
Stockholders equity	\$75,000 decrease (debit to retained earnings).	No effect on total stockholders' equity. Decreased retained earnings and increased permanent capital by same amount, \$3,750,000.

Summary comment:

- (1) A cash dividend decreases assets and stockholders' equity by the amount of the dividend because resources were disbursed.
- (2) A stock dividend does not change total assets or total stockholders' equity because no resources are disbursed; only the internal content of stockholders' equity is changed.

CASES AND PROJECTSFINANCIAL REPORTING AND ANALYSIS CASES**CP11-1.**

- Req. 1 110 stockholders
- Req. 2 No dividends were paid.
- Req. 3 Treasury stock is \$1,280,000.
- Req. 4 The statements show three splits during 1998-99.
- Req. 5 Par value is \$.01 per share
- Req. 6 125 million shares authorized; 46 million shares are issued.

CP11-2.

- Req. 1 The statements do not show any treasury stock
- Req. 2 \$18
- Req. 3 The company purchased and retired \$2,254,000 worth of common stock during 1999.
- Req. 4 The company has not paid any cash dividends since its inception and does not anticipate paying any in the foreseeable future.
- Req. 5 There was a stock split during 1996.
- Req. 6 Par value is \$0.0001

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CP11-4.

Number of common shares outstanding.

$$\frac{\text{Total par value}}{\text{par per share}} = \frac{\$298.3 \text{ million}}{2.50} = 119.32 \text{ million shares}$$

$$\text{Less treasury stock} \quad \frac{(12.8 \text{ million})}{106.52 \text{ million}} \text{ shares}$$

$$106.52 \text{ million shares} \times \$1 \text{ per share} = \$106.52 \text{ million}$$

CP11-5.

Management of General Mills appears to be maintaining a policy of slowly growing dividends. During the period, the payout ratio ranges from 44% to 81% and yield ranges from 2.2% to 3.5%. On the other hand, dividends have increased in a linear manner in each year except one (in which dividends were unchanged).

CP11-6.

Dividends Paid:

Common Shares	167,052,000
Add: 5-for-4 split	<u>41,763,000</u>
Total shares	208,815,000
Dividend	<u>0.14 per share</u>
	\$29,234,100

$$\text{Dividend yield} \quad \$0.14/\$25 = .0056$$

$$\text{Dividend payout} \quad 29,234,100/182,033,000 = 16\%$$

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CP11-3.

- Both companies are relatively young and have strategies focused on rapid growth. Management intends to finance much of this growth through retained earnings.
- It is difficult to answer this question with just the Industry ratio Report, but although the Dividend payout ratio and Dividend Yield ratio are relatively low, it appears that not paying out dividends is not the norm in the industry.
- Stock splits are often used by companies to keep their stock in a "normal" trading range. If American Eagle had not split its stock, it would have reached a high of nearly \$160 in 1999. Some believe that such a price might make the stock less attractive to some investors. Most investors are now interested in the appreciation of stock rather than the amount of dividends. American Eagle has provided excellent appreciation for its investors.

	5651--Family Clothing Stores	5331--Variety Stores	4924--Natural Gas Distribution
Dividend Payout	2.49%	7.48%	83.73%
Dividend Yield	0.09%	.38%	4.59%
Example Company	The GAP	Wal-Mart	Public Service of N.C.

The dividend payout ratio and dividend yield ratio are both less for the family clothing stores industry than the variety stores or natural gas distribution industry. The natural gas distribution industry has the highest dividend payout ratio and dividend yield ratio. This is primarily due to limited growth opportunities, and somewhat related to their cost and revenue structure. Most utilities such as natural gas distributors are not rapidly growing companies and therefore do not need to retain as much income to finance growth. Also, historically utilities have been a regulated industry, which limits their competition, revenues and some variability in earnings. Reducing these uncertainties allows them to forecast their need for cash closely and pay out excess cash in the form of dividends.

An investor that wants regular dividend payments would be more interested in investing in a public utility company than a retail store. Often these investors are retirees that use the income stream from dividends to supplement their income after they stop working.

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CRITICAL THINKING CASES**CP11-7.**

Students take a variety of positions on this issue. Clearly buybacks provide tax advantages for some investors. Most investors are not directly affected. Some students express concern that management may be able to manipulate the price of the stock. At this point we normally discuss the efficiency of markets.

CP11-8.

The purpose of this case is to have students think about different investment objectives for different investors. The recent college graduate is probably more interested in future growth and is able to tolerate a higher level of risk. The retired couple may have greater needs for current income and is probably not interested in long-term growth.

CP11-9.

These alternatives are designed to get students to think about stable current earnings versus risky growth opportunities. Ultimately, risk and return preferences are individual choices. We find that most students are interested in the concept of a portfolio to reduce risk and the impact of inflation during the investment period.

CP11-10.

The payment of a stock dividend is a cosmetic solution with no cash flow effects. If the stock is valued by the market for its steady dividends, a stock dividend will not prevent a negative response. Unfortunately, there is no easy way to solve this problem. We find that most students think the priority should be on maintaining the long-term health of the company.

CP11-11.

We do not have any easy answer to this question. We use this case to discuss corporate governance and responsibilities.

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FINANCIAL REPORTING AND ANALYSIS PROJECTS**CP11-12.**

Student responses depend on the company selected.

CP11-13

We expect students to consider a number of key points:

1. What is the economic cost associated with issuing stock to employees?
2. What are the benefits of having employees own shares of common stock and therefore, benefit more directly from the profitability of the company?
3. How should the Board of Directors balance the interests of groups that are dependent on the company?
4. What is the best negotiation strategy if your interests are at odds with another party?

CP11-14.

This type of bonus arrangement raises at least two serious concerns.

1. An executive may decide to emphasize short-term profitability over the long-term health of a company in order to maximize his or her income. A company that invests heavily in research and development, for example, will report lower income now in the hope of earning higher income in the future. An executive might not be willing to support that type of investment if he or she plans to retire before the higher earnings occur.
2. Bonus plans that are dependent on reported earnings may encourage executives to manipulate either accounting procedures or transactions to maximize their bonuses. Under the Disney plan, Eisner earns his bonus only if income exceeds a specified rate of return. An executive might be tempted to delay a profitable transaction at the end of an accounting period if the threshold had not been met. By doing so, the transaction would generate additional bonus money if the threshold is met in the subsequent accounting period.

CP11-15.

Trading on inside information is both a serious legal and ethical issue. The planned product improvement seems to be significant. It is inside information until a public announcement is made. The President is wrong in his belief that there is no problem because "if there is an economic gain, it will benefit all of the stockholders". If the company buys stock from existing stockholders without disclosing important inside information, those stockholders have been harmed. They sold their stock for less money than it would be worth if the company had made its announcement prior to the purchase. The President's plan should not be supported.

CP11-16.

Student response depends on the company selected.

CP11-17.

Student response depends on the company selected.

CP11-18.

Student response depends on information in the report that is selected.

CP11-19.

Student response depends on information in the report that is selected.

Chapter 12

Reporting and Interpreting Investments in Other Corporations

ANSWERS TO QUESTIONS

1. A short-term investment is one that meets the two tests of (1) ready marketability and (2) management intention to convert it to cash in the short run. In contrast, a long-term investment is one that does not meet both of these tests. Most long-term investments are marketable securities, either stocks or bonds. A short-term investment is classified as a current asset on the balance sheet, while long-term investments are reported as noncurrent assets.
2. When shares of capital stock of another company are purchased as an investment, they are measured and recorded at cost in accordance with the cost principle. Cost is defined as the total expenditures incurred in obtaining the other shares. The total outlay includes the market price plus all commissions and other buying costs.
3. Under the market value method, revenues are measured by the investor company in periods during which the other company declares a cash dividend. Unrealized gains and losses are realized when the stock price increases or decreases.
4. Under the equity method, investment revenue is measured on a proportionate basis by the investor company when earnings are reported by the investee company, rather than when the dividends are received. This is because the equity method is applied in the situation where the investor company has a sufficient number of the shares of voting stock of the other company to exercise a significant influence. When a significant influence can be exercised over the dividend policies of another corporation, it means that income of the other corporation can be obtained, almost at will, by the investor company. Thus, when the investee company reports income, the investor company should record a proportionate share of that income as investment revenue because it is considered earned under the requirements of the revenue principle.

5. Under the equity method, dividends received from the investee company (the other company) are not recorded as revenue because to record the dividends as revenue would involve double counting. There would be double counting because the investee company has already taken up, as revenue earned, its proportionate share of the earnings of the investee company. Because the dividends from the investee company are paid out of those earnings, to record them as revenue would be double counting. As a consequence, under the equity method, a dividend received from the investee company is debited to Cash and credited to the Investment account.
6. A parent-subsidiary relationship exists when one company owns a sufficient number of voting shares of the capital stock of another company to exercise control over it. The number of shares usually required to establish a parent-subsidiary relationship is more than 50 percent. The investing company is known as the parent and the other corporation is called the subsidiary. Both corporations continue as separate legal entities and each prepares its own separate financial statements. However, because of their special relationship, they are viewed for financial measuring and reporting purposes as a single economic entity. Therefore, the parent company (but not the subsidiary) is required to prepare consolidated financial statements.
7. The basic concept underlying consolidated statements is that, when there is a parent-subsidiary relationship (the parent company owns more than 50 percent of the voting stock of the other corporation and there is economic compatibility), it must be viewed as a single economic entity.

At the end of each period both companies prepare their own separate financial statements; then, under the concept of consolidated statements, these separate statements are combined, or aggregated, by the parent on an item-by-item basis to develop the consolidated financial statements. Thus, the consolidated statements do not affect the accounting for the parent or the subsidiaries, but affect only the reporting phase of the combined entity.
8. The basic element that must be present before consolidated statements are appropriate is: control of another entity—control is assumed to exist when more than 50 percent of the voting stock of another entity is owned by one investor.

9. A pooling of interests occurs when one company acquires a controlling interest in another company by exchanging its own shares of capital stock for voting shares of capital stock of the subsidiary. This situation must exist to qualify as a pooling of interests. However, APB Opinion No. 16 states a number of other precise conditions that must be met before a pooling of interests is appropriate. The result of these conditions is that there will be situations in which stock was exchanged, yet, due to other conditions, the pooling of interests criteria are not met fully. At the time this chapter is being written, the FASB is considering eliminating pooling and requiring all acquisitions to be accounted for using the purchase method.
10. A combination by purchase typically occurs when one corporation acquires a controlling interest in the voting common stock of another corporation by purchasing the shares either through the expenditure of cash, other assets, or by incurrence of debt. A purchase also exists when there are stock exchanges that do not meet all the conditions prescribed by APB Opinion No. 16 for pooling of interests. At the time this chapter is being written, the FASB is considering eliminating pooling and requiring all acquisitions to be accounted for using the purchase method.
11. In combining the separate financial statements of a parent and a subsidiary in the consolidation process, each item on the financial statements of each company is added on a line-by-line basis to obtain the consolidated amount. However, before aggregation (i.e., consolidation) in this manner, certain intercompany amounts must be eliminated. These intercompany amounts are items that are strictly between the two companies and if not eliminated would result in double counting. For example, the investment account on the parent company's books, in effect, represents the assets of the subsidiary. When the assets of the subsidiary, item by item, are added to those of the parent, the investment account must be eliminated, otherwise the assets would be included in the consolidated amounts twice. In a similar manner the proportionate share of owners' equity of a subsidiary owned by the parent must be eliminated.
12. When there is a combination by purchase, goodwill usually must be recognized on the consolidated financial statements. Goodwill occurs when the parent company pays a price for the shares of the subsidiary acquired which includes not only the regular assets of the subsidiary, but an additional amount which is deemed to represent a payment for the reputation and customer appeal which the subsidiary has developed. The amount identified with this customer appeal and good reputation is known as goodwill. In preparing the consolidated statements under combination by purchase, the goodwill must be recognized as an asset and amortized over a realistic period but not longer than 40 years (in a manner similar to depreciation).

**Authors' Recommended Solution Time
(Time in minutes)**

Mini-exercises		Exercises		Problems		Alternate Problems		Cases and Projects	
No.	Time	No.	Time	No.	Time	No.	Time	No.	Time
1	3	1	30	1	30	1	30	1	20
2	3	2	20	2	45	2	30	2	20
3	8	3	20	3	45	3	40	3	30
4	8	4	20	4	40			4	30
5	8	5	25	5	40			5	30
6	8	6	30	6	20			6	30
7	6	7	10	7	30			7	30
8	6	8	40					8	*
		9	45					9	*
		10	30					10	*
		11	15						
		12	10						
		13	10						
		14	10						

* Due to the nature of these cases and projects, it is very difficult to estimate the amount of time students will need to complete the assignment. As with any open-ended project, it is possible for students to devote a large amount of time to these assignments. While students often benefit from the extra effort, we find that some become frustrated by the perceived difficulty of the task. You can reduce student frustration and anxiety by making your expectations clear. For example, when our goal is to sharpen research skills, we devote class time to discussing research strategies. When we want the students to focus on a real accounting issue, we offer suggestions about possible companies or industries.

MINI-EXERCISES

M12-1.

Measurement Method	Level of Ownership of Capital Stock
b. Market Value Method	a. More than 50 percent ownership.
c. Equity Method	b. Less than 20 percent ownership.
a. Consolidation	c. At least 20 percent but not more than 50 percent ownership.

M12-2.

Measurement Method	Explanation of Balance in the Investment Account
a. Market value method	a. Current market value.
b. Equity Method	b. Original cost plus proportionate part of the income of the investee company, less proportionate part of the dividends declared by the investee.

M12-3.

July 2, 20B:

Investment in TS (A).....	224,000	
Cash (A).....		224,000
Purchased 8,000 shares (16%) of Cox Corporation common stock at \$28 per share.		

December 31, 20B:

Cash (A).....	16,000	
Investment income (R).....		16,000
Cash dividend received (8,000 shares x \$2 = \$16,000).		

December 31, 20B:

Net unrealized loss/gain – TS (E).....	24,000	
Valuation allowance – TS (A).....		24,000
Market – Cost = Allowance Balance – Unadjusted Balance = Adjustment		
\$200,000	\$224,000	–\$24,000
		\$0
		–\$24,000

M12-4.

July 2, 20B:

Investment in SAS (A).....	224,000	
Cash (A).....		224,000
Purchased 8,000 shares (16%) of Cox Corporation common stock at \$28 per share.		

December 31, 20B:

Cash (A).....	16,000	
Investment income (R).....		16,000
Cash dividend received (8,000 shares x \$2 = \$16,000).		

December 31, 20B:

Net unrealized loss/gain – SAS (SE).....	24,000	
Valuation allowance – SAS (A).....		24,000
Market – Cost = Allowance Balance – Unadjusted Balance = Adjustment		
\$200,000	\$224,000	–\$24,000
		\$0
		–\$24,000

M12-5.

Transaction	Balance Sheet		Income Statement			Net Income
	Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	
7/2	+224,000					
	–224,000					
12/31	+16,000		+16,000	+16,000		+16,000
12/31	–24,000		–24,000		+24,000	–24,000

M12-6.

Transaction	Balance Sheet		Income Statement			Net Income
	Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	
7/2	+224,000					
	–224,000					
12/31	+16,000		+16,000	+16,000		+16,000
12/31	–24,000		–24,000			

M12-7.

July 2, 20B:		
Cash (A).....	30,000	
Investments in associated companies (A).....		30,000
Cash dividend received (10,000 shares x \$3 = \$30,000).		
December 31, 20B:		
Investments in associated companies (A).....	50,000	
Equity in earnings of associated companies (R).....		50,000
Recognize earnings from associated company (25% x \$200,000)		

M12-8.

Transaction	Balance Sheet			Income Statement		
	Assets	Liabilities	Stockholders' Equity	Revenues	Expenses	Net Income
7/2	+30,000					
	-30,000					
12/31	+50,000		+50,000	+50,000		+50,000

EXERCISES

E12-1.

Questions	Method of Measurement	
	Market Value Method	Equity Method
a	Less than 20%.	At least 20% but not more than 50%.
b	At cost: 1,500 shares x \$18 = \$27,000.	At cost: 5,000 shares x \$18 = \$90,000.
c	When Co. B declares a cash dividend; holding gains and losses on securities-available-for-sale are not recognized as revenue.	When Co. B reports income or loss for the period; not when dividends are declared or paid.
d	Record increases and decreases based on stock price changes.	Increase the investment account for proportionate part of income, less proportionate part of dividends, of Co. B.
e	1,500 shares x \$15 = \$22,500.	5,000 shares x \$18 = \$90,000 plus \$15,000 (\$60,000 x 25%) minus \$3,750 (\$15,000 x 25%) equals \$101,250.
f	Company A owns 7.5% of Company B (1,500 shares x 20,000 shares outstanding) \$15,000 x 7.5% = \$1,125.	\$60,000 x 25% = \$15,000.
g	1,500 x (\$18 - \$15) = \$4,500 reported in stockholders' equity.	None.

E12-2.

June 30, 20A:		
Investment in TS (A).....	200,000	
Cash (A).....		200,000
Dec 31, 20A:		
Valuation Allowance - TS (A).....	40,000	
Net unrealized loss/gain - TS (R).....		40,000
Dec. 31, 20B:		
Valuation Allowance - TS (A).....	70,000	
Net unrealized loss/gain - TS (R).....		70,000
Dec. 31, 20C:		
Net unrealized loss/gain - TS (E).....	60,000	
Valuation Allowance - TS (A).....		60,000

Computations:

Year	Market	-	Cost	=	Allowance Balance	-	Unadjusted Balance	=	Adjustment
20A	\$240,000		\$200,000		+\$40,000		\$0		+\$40,000
20B	310,000		200,000		+110,000		+ 40,000		+ 70,000
20C	250,000		200,000		+ 50,000		+ 110,000		- 60,000

Feb. 14, 20D:

Cash (A).....	230,000	
Loss on sale of investment (E).....		20,000
Investment in TS (A).....		200,000
Valuation Allowance - TS (A).....		50,000

Note: The unrealized loss/gain is an income statement account. This item is reported on the current income statement and affects the computation of net income. It is closed to Retained Earnings at the end of each year.

E12-3.

June 30, 20A:		
Investment in SAS (A).....	200,000	
Cash (A).....		200,000
Dec. 31, 20A:		
Valuation Allowance - SAS (A).....	40,000	
Net unrealized loss/gain - SAS (SE).....		40,000
Dec. 31, 20B:		
Valuation Allowance - SAS (A).....	70,000	
Net unrealized loss/gain - SAS (SE).....		70,000
Dec. 31, 20C:		
Net unrealized loss/gain - SAS (SE).....	60,000	
Valuation Allowance - SAS (A).....		60,000
Feb. 14, 20D:		
Cash (A).....	230,000	
Net unrealized loss/gain - SAS (SE).....		50,000
Valuation Allowance - SAS (A).....		50,000
Investment in SAS (A).....		200,000
Gain on sale of investment (R).....		30,000

Computations:

Year	Market	-	Cost	=	Allowance Balance	-	Unadjusted Balance	=	Adjustment
20A	\$240,000		\$200,000		+\$40,000		\$0		+\$40,000
20B	310,000		200,000		+110,000		+ 40,000		+ 70,000
20C	250,000		200,000		+ 50,000		+ 110,000		- 60,000

Note: The unrealized loss/gain account is a balance sheet account. It does not affect the computation of net income each year. Because it is a balance sheet account, it maintains its balance from year to year. Therefore, the decline in stock price that occurs in 20C is reported as an adjustment to the unrealized gain. When the stock is sold in 20D, the unrealized loss/gain is reversed and the difference between the purchase price and the selling price is reported as a gain on the income statement.

E12-4.

March 10, 20B:			
Investment in TS (A).....	250,000		
Cash (A).....		250,000	
Dec. 31, 20B:			
Valuation allowance – TS (A).....	25,000		
Net unrealized loss/gain – TS (R).....		25,000	
Dec. 31, 20C:			
Net unrealized loss/gain – TS (E).....	75,000		
Valuation allowance – TS (A).....		75,000	
Dec. 31, 20D:			
Valuation allowance – TS (A).....	10,000		
Net unrealized loss/gain – TS (R).....		10,000	
Sept. 12, 20E:			
Cash (A).....	195,000		
Valuation allowance – TS (A).....		40,000	
Loss on sale of investment (E).....		15,000	
Investment in TS (A).....			250,000

Computations:

Year	Market	Cost	= Allowance Balance	– Unadjusted Balance	= Adjustment
20B	\$275,000	\$250,000	+\$25,000	\$0	+\$25,000
20C	200,000	250,000	– 50,000	+ 25,000	– 75,000
20D	210,000	250,000	– 40,000	– 50,000	+ 10,000

Note: The unrealized loss/gain is an income statement account. This item is reported on the current income statement and affects the computation of net income.

E12-5.

March 10, 20B:			
Investment in SAS (A).....	250,000		
Cash (A).....		250,000	
Dec. 31, 20B:			
Valuation allowance – SAS (A).....	25,000		
Net unrealized loss/gain – SAS (SE).....		25,000	
Dec. 31, 20C:			
Net unrealized loss/gain – SAS (SE).....	75,000		
Valuation allowance – SAS (A).....		75,000	
Dec. 31, 20D:			
Valuation allowance – SAS (A).....	10,000		
Net unrealized loss/gain – SAS (SE).....		10,000	
Sept. 12, 20E:			
Cash (A).....	195,000		
Valuation allowance – SAS (A).....		40,000	
Loss on sale of securities (E).....		55,000	
Available-for-sale securities (A).....			250,000
Net unrealized loss/gain – SAS (SE).....			40,000

Computations:

Year	Market	Cost	= Allowance Balance	– Unadjusted Balance	= Adjustment
20B	\$275,000	\$250,000	+\$25,000	\$0	+\$25,000
20C	200,000	250,000	– 50,000	+ 25,000	– 75,000
20D	210,000	250,000	– 40,000	– 50,000	+ 10,000

Note: The Unrealized loss/gain account is a balance sheet account. It does not affect the computation of net income each year. Because it is a balance sheet account, it maintains its balance from year to year. Therefore, the decline in stock price that occurs in 20C is reported as an adjustment to the unrealized gain/loss account and the increase in stock price that occurs in 20D is also reported as an adjustment to the unrealized gain/loss account. When the stock is sold in 20E, the unrealized loss/gain is reversed and the difference between the purchase price and the selling price is reported as a loss on the income statement.

E12-6.

Req. 1

The equity method must be used because the company owns 35% (21,000 ÷ 60,000) of the total shares outstanding of Nueces Corporation. The equity method must be used when there is at least 20% but not more than 50% ownership in existence. The investor must use the equity method because it can exercise significant influence, but not control, over the operating and financing policies of Nueces Corporation.

Req. 2

January 10, 20E:			
Investment in associated companies (A).....	252,000		
Cash (A).....		252,000	
Purchased 21,000 shares (35%) of the common stock of Nueces Corp. at \$12.			
December 31, 20E:			
Investment in associated companies (A).....	31,500		
Equity in earnings of associated companies (R).....		31,500	
To record 35% of the revenue reported by Nueces Corp. (\$90,000 x 35% = \$31,500)			
December 31, 20E:			
Cash (A).....	12,600		
Investment in associated companies (A).....		12,600	
To record 35% of cash dividends paid by Nueces Corp. (21,000 shares x \$.60 = \$12,600)			

No entry is made under the equity method to record changes in market value.

Req. 3

Balance Sheet—At December 31, 20E	
Long-term Investments:	
Investment in associated companies; equity basis (cost \$252,000).....	\$270,900
Income Statement—For the Year Ended December 31, 20E	
Equity in earnings of associated companies	\$ 31,500

E12-7.

1. Investing activities		
Purchase of investments in associated companies		–252,000
2. Operating activities		
Net Income		
Adjusted for:		
Equity in earnings of associated companies		–31,500
Dividends received from associated companies		+12,600

E12-8.

Consolidation is an accounting process that brings together financial information from two or more companies to make it appear as if there is a single economic entity. These companies may have engaged in transactions with each other during the year (these transactions are called intercompany transactions). Some examples are lending money or selling merchandise. During consolidation, intercompany transactions are eliminated or reversed so that on the consolidated statements, it appears as if the transactions never took place.

It is necessary to eliminate intercompany transactions because a single economic entity cannot logically do business with itself. It makes no sense, for example, to report as a liability an amount that an entity owes itself.

E12-9.

It might be tempting to suggest that part of the acquisition should be recorded as a purchase and part as a pooling but such an accounting treatment is not permitted. Because a substantial amount of cash was provided in addition to stock, Colgate-Palmolive used the purchase method. While the text does not discuss the specific criteria that are used to distinguish pooling and purchase, this question can be used to illustrate the fundamental economic differences. Note that, at the time this chapter is being written, the FASB is considering eliminating pooling and requiring all acquisitions to be accounted for using the purchase method.

E12-10.

Req. 1

This is a combination by purchase because the shares of the subsidiary were acquired by purchase for cash.

Req. 2

Investment in Co. S (100%) (A).....	80,000	
Cash (A).....		80,000
Purchased all of the outstanding stock (4,000 shares) of Co. S.		

Req. 3

Purchase price for 100% interest in Co. S.....	\$80,000
Market value of Company S net assets purchased equaled book value (\$60,000 - \$9,000).....	51,000
Goodwill purchased.....	<u>\$29,000</u>

Req. 4

COMPANY P AND ITS SUBSIDIARY, COMPANY S (100% OWNED)
Consolidated Balance Sheet (purchase method)
January 1, 20A (immediately after acquisition)

	Separate Balance Sheets		Eliminations	Consolidated Balance Sheet
	Company P	Company S		
Assets:				
Cash.....	\$ 12,000	\$18,000		\$ 30,000
Investment in Co. S (at cost).....	80,000		(a) - 80,000	
Property and equipment (net).....	48,000	42,000		90,000
Goodwill.....			(a) + 29,000	29,000
Totals.....	<u>\$140,000</u>	<u>\$60,000</u>		<u>\$149,000</u>
Liabilities:				
Liabilities.....	\$ 40,000	\$ 9,000		\$ 49,000
Stockholders' Equity:				
Common stock, Co. P.....	90,000			90,000
Common stock, Co. S.....		40,000	(a) - 40,000	
Retained earnings, Co. P.....	10,000			10,000
Retained earnings, Co. S.....		11,000	(a) - 11,000	
Totals.....	<u>\$140,000</u>	<u>\$60,000</u>		<u>\$149,000</u>

E12-11.

Goodwill calculation:

Purchase price.....	\$100,000
Market value of net assets.....	90,000
Goodwill.....	<u>\$ 10,000</u>
Goodwill amortization (\$10,000÷10).....	<u>\$ 1,000</u>

Revenues (\$500,000 + 75,000).....	\$575,000
Expenses (\$350,000 + \$50,000 + \$1,000).....	401,000
Net Income	<u>\$174,000</u>

E12-12.

Under the purchase method, fair market value of an acquired company's assets are recorded as of the date of acquisition. Often, the purchase price of the acquired company is greater than the fair market value of its assets (cost in excess of net assets acquired). This amount is called goodwill. Under the matching concept, goodwill must be amortized over its expected life, not to exceed 40 years. Wells Fargo amortizes most of its goodwill over 25 years using the straight-line method (equal amounts each year). Note that, at the time this chapter is being written, the FASB is considering lowering the maximum expected life to 20 years.

E12-13.

Many companies derive their primary economic value from their established business and not their tangible assets. Good examples include Coke and Disney. In the media industry, the cost of broadcast equipment is fairly inexpensive. Of real value are broadcast licenses, loyal audiences, and established relationships with creative talent. When Disney acquires companies such as ABC television which has these intangible assets, it must pay a significant amount in excess of the fair market value of tangible assets which creates goodwill.

E12-14.

1.
$$\text{Return on Equity} = \frac{\text{Net Income}}{\text{Average Total Assets}}$$

$$\frac{\$59,156}{(\$420,003 + \$469,467) \div 2} = .133(13.3\%)$$

2. ROA measures how much the firm earned for each dollar of investment. It is the broadest measure of profitability and management effectiveness, independent of financing strategy.

PROBLEMS

P12-1.

Req. 1

March 1, 20A		
Investment in TS (A).....	200,000	200,000
Cash (A).....		
Dec. 31, 20A		
Net unrealized loss/gain - TS (E).....	20,000	20,000
Valuation allowance - TS (A).....		
Dec. 31, 20B		
Valuation allowance - TS (A).....	60,000	60,000
Net unrealized loss/gain - TS (R).....		
Dec. 31, 20C		
Valuation allowance - TS (A).....	60,000	60,000
Net unrealized loss/gain - TS (R).....		
Req. 2		
March 1, 20A		
Investment in SAS (A).....	200,000	200,000
Cash (A).....		
Dec. 31, 20A		
Net unrealized loss/gain - SAS (SE).....	20,000	20,000
Valuation allowance - SAS (A).....		
Dec. 31, 20B		
Valuation allowance - SAS (A).....	60,000	60,000
Net unrealized loss/gain - SAS (SE).....		
Dec. 31, 20C		
Valuation allowance - SAS (A).....	60,000	60,000
Net unrealized loss/gain - SAS (SE).....		

Computations:

Year	Market	-	Cost	=	Allowance Balance	-	Unadjusted Balance	=	Adjustment
20A	\$180,000		\$200,000		-\$20,000		\$0		-\$20,000
20B	240,000		200,000		+ 40,000		- 20,000		+ 60,000
20C	300,000		200,000		+100,000		+ 40,000		+ 60,000

P12-2.

Req. 1

The market value method must be used for both the Q common stock and R preferred stock. The market value method must be used for Q common stock because only 14% of it is owned. If less than 20% of the outstanding stock is owned, it is assumed there can be no exercise of significant influence or control, therefore, the market value method must be used. The market value method is used for R preferred stock, regardless of the level of ownership, because it is **nonvoting** stock; there is no significant influence or control.

Req. 2

	20A	20B
a. Acquisition of the investments:		
Investment in SAS (A).....	423,000	
Cash (A).....		423,000
Q common stock: 12,600 shares x \$5 =	\$ 63,000	
R preferred stock: 12,000 shares x \$30 =	360,000	
Total investment.....	<u>\$423,000</u>	
b. Income reported by Corporations Q & R:		
No entry is required for either the common or preferred stock because, under the market value method, revenue is recognized only when dividends are declared.		
c. Dividends received:		
Cash (A).....	20,880	21,510
Investment income (R).....		21,510
20A: Q common stock: 12,600 shares x \$80 =	\$10,080	
R preferred stock: 12,000 shares x \$90 =	10,800	
Total.....	<u>\$20,880</u>	
20B: Q common stock: 12,600 shares x \$85 =	\$10,710	
R preferred stock: 12,000 shares x \$90 =	10,800	
Total.....		<u>\$21,510</u>

P12-2. (continued)

	20A	20B
d. Market value effects:		
Net unrealized gain/loss – SAS (SE)...	24,600	
Valuation allowance – SAS (A).....	24,600	
Valuation allowance - SAS (A).....		12,000
Net unrealized gain/loss - SAS (SE)		12,000

Computations:

Year	Market	Cost	Allowance Balance	Unadjusted Balance	Adjustment
20A Q	\$50,400	\$63,000	– \$12,600	\$0	– \$12,600
	(12,600 x \$4)				
R	348,000	360,000	– 12,000	0	– 12,000
	(12,000 x \$29)				– 24,600
20B Q	50,400	63,000	– 12,600	– 12,600	0
	(12,600 x \$4)				
R	360,000	360,000	0	– 12,000	+ 12,000
	(12,000 x \$30)				+ 12,000

Req. 3

a. Balance Sheet:		
Long-term Investments:		
Investment in SAS (cost \$423,000).....	\$398,400	\$410,400
b. Stockholders' Equity:		
Net unrealized loss/gain – SAS.....	(24,600)	(12,600)
c. Income Statement:		
Investment income.....	20,880	21,510

P12-3.

Req. 1

Aug. 4, 20A Investment in TS (A).....	45,000	
Cash (A).....		45,000
Dec. 31, 20A Valuation allowance – TS (A).....	7,000	
Net unrealized loss/gain – TS (R).....		7,000
June 1, 20B Cash (A).....	2,000	
Investment income (R).....		2,000
Dec. 31, 20B Net unrealized loss/gain – TS (E).....	5,000	
Valuation allowance – TS (A).....		5,000
June 1, 20C Cash (A).....	2,000	
Investment income (R).....		2,000
Dec. 31, 20C Net unrealized loss/gain – TS (E).....	9,000	
Valuation allowance – TS (A).....		9,000

Computations for Year-End Adjustments to Market:

Year	Market	Cost	Allowance Balance	Unadjusted Balance	Adjustment
20A	\$52,000	\$45,000	+\$7,000	\$0	+\$7,000
20B	47,000	45,000	+ 2,000	+ 7,000	– 5,000
20C	38,000	45,000	– 7,000	+ 2,000	– 9,000

Req. 2

Aug. 4, 20A Investment in SAS (A).....	45,000	
Cash (A).....		45,000
Dec. 31, 20A Valuation allowance – SAS (A).....	7,000	
Net unrealized loss/gain – SAS (SE).....		7,000
June 1, 20B Cash (A).....	2,000	
Investment income (R).....		2,000
Dec. 31, 20B Net unrealized loss/gain – SAS (SE).....	5,000	
Valuation allowance – SAS (A).....		5,000
June 1, 20C Cash (A).....	2,000	
Investment income (R).....		2,000
Dec. 31, 20C Net unrealized loss/gain – SAS (SE).....	9,000	
Valuation allowance – SAS (A).....		9,000

P12-3. (continued)

Req. 3

Aug. 4, 20A Investment in associated companies(A).....	45,000	
Cash (A).....		45,000
Dec. 31, 20A Investment in associated companies (A).....	15,000	
Equity in earnings of associated companies (R).....		15,000
(30% x \$50,000)		
June 1, 20B Cash (A).....	2,000	
Investment in associated companies (A).....		2,000
Dec. 31, 20B Investment in associated companies (A).....	15,000	
Equity in earnings of associated companies (R).....		15,000
(30% x \$50,000)		
June 1, 20C Cash (A).....	2,000	
Investment in associated companies (A).....		2,000
Dec. 31, 20C Investment in associated companies (A).....	15,000	
Equity in earnings of associated companies (R).....		15,000
(30% x \$50,000)		

P12-4.

Req. 1

CASE A The market value method must be used by Company D because it owns 12% (3,600 + 30,000) of the total outstanding common shares of Company C. The market value method must be used when less than 20% of the outstanding shares are owned because the investor (Company D) cannot exercise significant influence or control.

CASE B The equity method must be used by Company D because it owns 35% (10,500 + 30,000) of the outstanding common shares of Company C. The equity method must be used if the level of ownership is at least 20% but not more than 50% because the investor (Company D) can exercise significant influence, but not control, over the operating and financing policies of Company C.

Req. 2

	Case A-12%	Case B-35%
a. January 1, 20B Purchase:		
Investment in SAS (A)..... (3,600 shares x\$25)	90,000	
Cash (A).....	90,000	
Investment in assoc. co. (A)..... (10,500 shares x\$25)		262,500
Cash (A).....		262,500
b. Income reported by Company C:		
Investment in assoc. company (A).....	None	17,500
Equity in earnings of assoc co (R)... (\$50,000 x 35%)		17,500
c. Dividends declared and paid by Co. C:		
Cash (A).....		8,925
Investment in assoc. company (A)....		8,925*
Cash (A).....	3,060	
Investment income (R).....	3,060*	
*Computations \$25,500 x 12% = \$3,060 \$25,500 x 35% = \$8,925		
d. Net unrealized loss/gain (SE).....		
Valuation allowance – SAS (A).....	10,800	None
3,600 shares x (\$22 market – \$25 cost) = –\$10,800.	10,800	

P12-4. (continued)

Req. 3

	Case A-12%	Case B-35%
Balance Sheet:		
Investments:		
Investment in SAS (\$90,000 – \$10,200)	\$79,200	
Investment in associated company		\$271,075
Stockholders' Equity:		
Net unrealized loss/gain – SAS	(10,800)	None
Income Statement:		
Investment income.....	3,060	
Equity in earnings of assoc co		17,500

Req. 4

Assets (investments), stockholders' equity (retained earnings), and revenues (from investments) are different because (1) different methods of recognizing revenue are required and (2) adjustments for changes in market value are recorded only under the market value method.

P12-5.

Req. 1

CASE A The market value method must be used by the company because it owns 10% (10,000 + 100,000) of the total shares of the outstanding common stock of Ship Corporation. The market value method must be used when less than 20% of the outstanding stock is owned because the investor cannot exercise either significant influence or control.

CASE B The equity method must be used by the company because it owns 40% (40,000 + 100,000) of the total shares of the outstanding common stock of Ship Corporation. The equity method must be used when at least 20% but not more than 50% of the outstanding stock is owned, because the investor can exercise significant influence, but not control, over the operating and financing policies of the other company.

Req. 2

	Case A-10%	Case B-40%
a. Jan. 10, 20B Stock acquisition:		
Investment in SAS (A)..... (10,000 shares x\$20)	200,000	
Cash (A).....	200,000	
Investment in assoc. co. (A)..... (40,000 shares x\$20)		800,000
Cash (A).....		800,000
b. Income of Ship Co.:		
Investment in assoc. company (A).....	None	120,000
Equity in earnings of assoc co (R)... (\$300,000 x 40%)		120,000
c. Dividends paid by Ship Corporation:		
Cash (A).....	6,000	
Investment income (R)..... (10,000 shares x \$.60)	6,000	
Cash (A).....		24,000
Investment in assoc. company (A).... (40,000 shares x \$.60)		24,000
d. Year-end valuation:		
Net unrealized loss/gain – SAS (SE)...	20,000	None
Valuation allowance – SAS (A)..... [10,000 x (\$18 market – \$20 cost) = –\$20,000]	20,000	

P12-5. (continued)

Req. 3

	Case A	Case B
a. Balance Sheet:		
Long-term Investments:		
Investment in SAS (\$200,000 – \$20,000).....	\$180,000	
Investment in assoc co (\$800,000 + \$120,000 – \$24,000)....		\$896,000
b. Stockholders' Equity		
Net unrealized loss/gain – SAS	(20,000)	
c. Income Statement:		
Investment income.....	6,000	
Equity in earnings of assoc co		120,000

Req. 4

The amounts reported in Requirement (3) are different because (1) of the two different approaches used in recognizing investment revenue and (2) adjustments for changes in market value are made only under the market value method.

P12-6.

Investing activities	
Purchase of investments in associated companies	–1,296,000
Operating activities	
Net income	
Adjusted for:	
Equity in earnings of associated companies	–90,000
Dividends received from associated companies	+121,500

(Note that the change in market value does not have any effect on the cash flow statement.)

P12-7.

Req. 1

This is a combination by purchase because the stock of the subsidiary was acquired through purchase for cash.

Req. 2

January 4, 20A:		
Investment in Co. S (8,000 shares) (A).....	96,000	
Cash (8,000 shares x \$12) (A).....		96,000
Purchased 100% of stock of Co. S at \$12 per share.		

Req. 3

Purchase price for 100% interest in Co. S.....	\$96,000
Market value of net assets purchased (\$23,000 + \$65,000 + \$7,000* - \$12,000).....	83,000
Goodwill purchased.....	<u>\$13,000</u>

*The difference between the market value and book value of the property and equipment (\$72,000 - \$65,000 = \$7,000)

Req. 4

The assets of Company S will be included in the consolidated balance sheet prepared by Co. P at their market values at date of acquisition. This is a combination by purchase; therefore, the cost principle is applied.

P12-7. (continued)

Req. 5

COMPANY P AND ITS SUBSIDIARY, COMPANY S (100% OWNED)
Consolidated Balance Sheet (purchase method)
January 4, 20A (immediately after acquisition)

	Separate Balance Sheets		Eliminations	Consolidated Balance Sheet
	Company P	Company S		
Assets:				
Cash.....	\$ 22,000	\$23,000		\$ 45,000
Investment in Co. S.....	96,000		(a) - 96,000	
Property & equipment (net).....	132,000	65,000	(a) + 7,000	204,000
Goodwill.....			(a) + 13,000	13,000
Totals.....	<u>\$250,000</u>	<u>\$88,000</u>		<u>\$262,000</u>
Liabilities:				
Liabilities.....	\$ 27,000	\$12,000		\$ 39,000
Stockholders' Equity:				
Common stock, Co. P.....	120,000			120,000
Common stock, Co. S.....		40,000	(a) - 40,000	
Retained earnings, Co. P.....	103,000			103,000
Retained earnings, Co. S.....		36,000	(a) - 36,000	
Totals.....	<u>\$250,000</u>	<u>\$88,000</u>		<u>\$262,000</u>

ALTERNATE PROBLEMS

AP12-1.

Req. 1

Sept 15, 20A		
Investment in TS (A).....	150,000	
Cash (A).....		150,000
Dec. 31, 20A		
Valuation allowance - TS (A).....	10,000	
Net unrealized loss/gain - TS (R).....		10,000
Dec. 31, 20B		
Net unrealized loss/gain - TS (E).....	40,000	
Valuation allowance - TS (A).....		40,000
Dec. 31, 20C		
Net unrealized loss/gain - TS (E).....	20,000	
Valuation allowance - TS (A).....		20,000

Computations for Year-End Adjustments to Market:

Year	Market	Cost	= Allowance	Balance - Unadjusted	Balance = Adjustment
20A	\$160,000	\$150,000	+\$10,000	\$0	+\$10,000
20B	120,000	150,000	- 30,000	+10,000	- 40,000
20C	100,000	150,000	- 50,000	-30,000	- 20,000

Req. 2

Sept 15, 20A		
Investment in SAS (A).....	150,000	
Cash (A).....		150,000
Dec. 31, 20A		
Valuation allowance - SAS (A).....	10,000	
Net unrealized loss/gain - SAS (SE).....		10,000
Dec. 31, 20B		
Net unrealized loss/gain - SAS (SE).....	40,000	
Valuation allowance - SAS (A).....		40,000
Dec. 31, 20C		
Net unrealized loss/gain - SAS (SE).....	20,000	
Valuation allowance - SAS (A).....		20,000

AP12-2.

Req. 1

The market value method of accounting for long-term investments must be used in this situation because 6% of the outstanding voting stock of Seven Corporation is owned. The market value method must be used when less than 20% of the outstanding stock is owned because the investor company cannot exercise significant influence or control.

Req. 2

a. Acquisition:		20A	20B
Investment in SAS (A).....	360,000		
Cash (A).....		360,000	
Purchased 12,000 shares of Seven Corp. no-par stock at \$30 per share.			
b. Income reported by Seven Company:			
Revenue should not be recognized by the company on the basis of Seven Corp. income in either 20A or 20B because, under the market value method, revenue is not recognized until dividends are declared.			
c. Dividends received:			
Cash (A).....	3,600		4,800
Investment income (R).....		3,600	4,800
20A: \$60,000 x 6% = \$3,600			
20B: \$80,000 x 6% = \$4,800			
d. Market value effects:			
Net unrealized loss/gain - SAS (SE).....	24,000		12,000
Valuation allowance - SAS (A).....		24,000	12,000

Req. 3

a. Balance sheet:		20A	20B
Long-term Investments:			
Investment in SAS (cost, \$360,000).....		\$336,000	\$348,000
b. Stockholders' Equity:			
Net unrealized gain/loss - SAS.....		(24,000)	(12,000)
c. Income Statement:			
Investment income.....		3,600	4,800

AP12-3.

Req. 1

- CASE A** The market value method must be used by the company because it owns 15% (30,000 ÷ 200,000) of the total shares. When ownership is less than 20% the market value method must be used because the investor cannot exercise either significant influence or control.
- CASE B** The equity method must be used by the company because it owns 40% (80,000 ÷ 200,000) of the total shares. When ownership is at least 20% but not more than 50% the equity method must be used because the investor can exercise significant influence, but not control, over the operating and financing policies of the other company.

Req. 2

	Case A-15%	Case B-40%
January 10, 20E:		
Investment in:		
SAS (30,000 shares x \$15) (A).....	450,000	1,200,000
assoc co (80,000 shares x \$15) (A).....		
Cash (A).....	450,000	1,200,000
Purchased common stock at \$15 per share.		
December 31, 20E:		
Investment in assoc company(A).....	None	36,000
Equity in earnings for assoc co (R)		36,000
CASE B—\$90,000 x 40% = \$36,000		
December 31, 20E:		
Cash (A).....	18,000	48,000
Investment in assoc company (A).....		48,000
Investment income (R)	18,000	
CASE A—30,000 x \$.60 = \$18,000		
CASE B—80,000 x \$.60 = \$48,000		
December 31, 20E:		
Net unrealized loss/gain – SAS (SE)	180,000	None
Valuation allowance – SAS (A)	180,000	
CASE A—30,000 shares x (\$15 – \$9) = \$180,000		

AP12-3. (continued)

Req. 3

	Case A	Case B
December 31, 20E:		
Balance sheet (partial):		
Investments:		
Investment in common stock, Boston Corporation.....	\$270,000	\$1,188,000
Stockholders' Equity:		
Net unrealized loss/gain – SAS	(180,000)	None
Income Statement (partial):		
Investment income.....	18,000	
Equity in earnings of assoc co.....		36,000

CASES AND PROJECTS

FINANCIAL REPORTING AND ANALYSIS CASES

CP12-1.

- Urban Outfitters reports both short-term and long-term marketable securities, consisting of tax-exempt municipal securities and U.S. government securities (see Note 2). As discussed in Note 1, the company has designated a portion of these securities as "held-to-maturity" and reports those securities at cost. The remaining securities are designated as "available-for-sale" and the company reports those securities at market value.
 - In Note 2, Urban Outfitters reports the cost and the market value of these securities. Market value is nearly identical to cost. These are government securities (municipal and federal) and, as such, may be viewed as more stable (and more predictable) than other types of securities.
 - As per Note 1, the company operates through wholly-owned subsidiaries. There are no majority-owned subsidiaries that are not wholly-owned, because there is no "minority interest" account listed on the consolidated balance sheet.
- Note 1 also indicates that all intercompany transactions are eliminated during consolidation. This refers to removing the effects of transactions between subsidiaries or between the parent company and its subsidiaries. The consolidated financial statements are calculated by essentially adding together the financial statements of the parent and all the subsidiary companies. For the combined entity, intercompany transactions represent internal transfers, not measurable events or exchanges with external parties. As such, the effects of these transactions need to be removed from the consolidated statements prepared for external users.
 - The unrealized gain on Urban Outfitters available-for-sale securities had no net effect on cash flows from operations. Because the gain is *unrealized*, no actual sale occurred and no exchange of cash took place.

CP12-2.

1.

ROA Analysis	American Eagle Outfitters	Urban Outfitters
Net Income	\$54,118 = 0.09	\$15,760 = 0.08
Net Sales	\$587,600	\$208,969
x Net Sales	\$587,600 = 3.30	\$208,969 = 1.74
Average Total Assets	\$177,872	\$120,394
Return on Assets	0.30	0.13

- The difference in ROA between the two companies suggests that American Eagle Outfitters has managed its assets more effectively than Urban Outfitters. American Eagle Outfitters provided the higher return on its total investment during the current year (30%) compared to Urban Outfitters (13%).
- The difference in ROA is due primarily to efficiency differences, not to differences in profitability. This is inferred from the decomposition of ROA into the Net Profit Margin and Asset Turnover. The Net Profit Margins for the two companies are very similar (9% and 8%). The difference in ROA results from the difference in Asset Turnover. American Eagle's Asset Turnover of 3.30 is almost double Urban Outfitters' Asset Turnover of 1.74.
 - The Standard and Poor's Industry Ratio Report lists the average Return on Assets for the industry as 10.58%. Thus, American Eagle Outfitters' Return on Assets of 30% was much higher than average for the industry, while Urban Outfitters' Return on Assets of 13% was only slightly higher than average for the industry.

CP12-3.

Req. 1

Under the equity method, the investment amount (i.e., \$560,000) was increased by the proportionate share in income reported by the investee corporation and decreased by the proportionate share of the dividends declared by the investee corporation. Thus, the increase in the investment account was caused by an excess of investment income over dividends received.

Req. 2

The net increase in the investment account was \$160,000 (i.e., \$720,000 – \$560,000). Dividends during 20B reduced the investment account by the amount of \$80,000; therefore, investment revenue must be \$240,000 (i.e., \$160,000 + \$80,000).

Req. 3

If the market value method were used, investment revenue for 20B would be \$80,000 (the amount of dividends received). The unrealized gain does not affect the income statement.

Req. 4

The market price of Trevor stock increased during 20B; therefore, the amount of the investment account balance would be \$600,000.

CRITICAL THINKING CASES**CP12-6.**

This case deals with inside information. The plan to acquire 80% of another company is significant because, when announced, it will affect the stock price of the other company. It is wrong both legally and ethically to trade on inside information without regard to the size of your proposed investment. It is also wrong to pass inside information on to another individual even if you do not profit directly from the information.

CP12-7.

The assets, liabilities, revenues and expenses of the two companies will be added together. It is unlikely that the two companies have significant intercompany transactions such as intercompany sales. The analyst cannot simply add the two financial statements together because the investment account must be eliminated and the assets of the acquired company stated at their fair value. Unfortunately, this information is not available publicly. Because the assets of the subsidiary are restated to fair value, the return on investment ratio for the combined company will be less than a weighted average of the two companies before consolidation.

FINANCIAL REPORTING AND ANALYSIS PROJECTS**CP12-8 through CP12-10.**

The solutions to these cases will depend on the company and/or accounting period selected for analysis.

CP12-4.

The article describes three major changes to M&A accounting under the exposure draft. First, purchase accounting must be applied to all cases, eliminating the possibility of pooling-of-interests as a method of accounting. Second, goodwill must be amortized over a shorter time period, with a 20-year maximum compared to the present 40-year maximum write-off period. Third, "pre-goodwill" earnings-per-share can be calculated and displayed in the financial statements.

The FASB argues that mandating one method of accounting will reduce investor confusion resulting from multiple methods currently applied in merger accounting. The FASB also believes that the changes bring U.S. accounting standards closer to international standards. This is perceived to be beneficial because of recent increases in multinational mergers.

According to the article, companies are opposed to the plan because of the accelerated write-off of goodwill. This has the effect of lowering companies' net income, compared to what it would have been under the longer 40-year write-off period or under pooling-of-interests where no goodwill is recorded.

Others do not believe it will affect their activities as investors are beginning to look at earnings on a cash-flow basis. As goodwill amortization is a non-cash expense, the accelerated write-off of goodwill has no effect on cash flow.

CP12-5.

Under the purchase method of accounting in this country, the excess of the cost of the investment over the book value of the assets is used to revalue the tangible assets to their fair market value and record goodwill. Goodwill is recorded on the balance sheet as an asset and amortized over a period not to exceed 40 years. (Note that, as this chapter is being written, the FASB is considering reducing the maximum amortization period to 20 years.)

In England, tangible assets are also recorded at fair market value after an acquisition similar to our purchase method (the note implies that there is no equivalent to the pooling of interests method). The major difference is the treatment of goodwill. The recorded amount of goodwill is subtracted from retained earnings and not recorded as an asset. As a result, the combined entity in England will show a lower amount for total assets and greater net income than a U.S. company because there is no amortization of goodwill.

The amount for "significant owned brands" in the Grand Metropolitan note would typically be included in goodwill for a U.S. company. In England, the amount for owned brands is not expensed unless there is a permanent decline in value.

Chapter 13

The Statement of Cash Flows

ANSWERS TO QUESTIONS

- The income statement reports revenues earned and expenses incurred during a period of time. It is prepared on an accrual basis. The balance sheet reports the assets, liabilities, and equity of a business at a point in time. The statement of cash flows reports cash receipts and cash payments of a business, from three broad categories of business activities: operating, investing, and financing.
- The statement of cash flows reports cash receipts and cash payments from three broad categories of business activities: operating, investing, and financing. While the income statement reports operating activities, it reports them on the accrual basis: revenues when earned, and expenses when incurred, regardless of the timing of the cash received or paid. The statement of cash flows reports the cash flows arising from operating activities. The balance sheet reports assets, liabilities, and equity at a point in time. The statement of cash flows and related schedules indirectly report changes in the balance sheet by reporting operating, investing, and financing activities during a period of time, which caused changes in the balance sheet from one period to the next. In this way, the statement of cash flows reports information to link together the financial statements from one period to the next, by explaining the changes in cash and other balance sheet accounts, while summarizing the information into operating, investing, and financing activities.
- Cash equivalents are short-term, highly liquid investments that are purchased within three months of the maturity date. The statement of cash flows does not separately report the details of purchases and sales of cash equivalents because these transactions affect only the composition of total cash and cash equivalents, not the total amount. The statement of cash flows reports the change in total cash and cash equivalents from one period to the next.
- The major categories of business activities reported on the statement of cash flows are operating, investing, and financing activities. Operating activities of a business arise from the production and sale of goods and/or services. Investing activities arise from acquiring and disposing of assets. Financing activities arise from transactions from investors and creditors.

- Cash inflows from operating activities include cash sales, collections on accounts, and notes receivable arising from sales, dividends on investments, and interest on loans and investments. Cash outflows from operating activities include payments to suppliers and employees, and payments for operating expenses, taxes, and interest.
- Depreciation expense is added to net income to adjust for the effects of a noncash expense that was deducted in determining net income. It does not involve an inflow of cash.
- Cash expenditures for purchases and salaries are not reported on the statement of cash flows, indirect method because that method does not report cash inflows and outflows for each operating activity. Rather, it reports only net income, changes in accounts receivable and wages payable, and net cash inflow from operating activities.
- The \$50,000 increase in inventory must be used in the statement of cash flows calculations because it increases the outflow of cash all other things equal. It is used as follows:
Direct method—added to cost of goods sold, accrual basis (the other adjustment would involve accounts payable) to compute cost of goods sold, cash basis.
Indirect method—subtracted from net income as a reconciling item with cash flows from operating activities.
- The two methods of reporting cash flows from operating activities are the direct method and the indirect method. The direct method reports the gross amounts of cash receipts and cash payments arising from the revenues and expenses reported on the income statement. The indirect method reports the net amount of cash provided or used by operating activities, by reporting the adjustments to net income for the net effects of noncash revenues and expenses, and changes in accruals and deferrals. The two approaches differ in the way they report cash flows from operating activities, but are similar in that the final result, net cash provided by operating activities, is the same amount.
- Cash inflows from investing activities include cash received from sale of operational assets, sale of investments, maturity value of bond investments, and principal collections on notes receivable. Cash outflows from investing activities include cash payments to purchase operational assets and investments, and to make loans.
- Cash inflows from financing activities include cash received from issuing stock, the sale of treasury stock, and investments. Cash outflows from financing activities include cash payments for dividends, the purchase of treasury stock, and principal payments on borrowing.

- Noncash investing and financing activities are activities that would normally be classified as investing or financing activities, except no cash was received or paid. Examples of noncash investing and financing include the purchase of assets by issuing stock or bonds, the repayment of loans using noncash assets, and the conversion of bonds into stock. Noncash investing and financing activities are not reported in the statement of cash flows, because there was no cash received or cash paid; however, the activities are disclosed in a separate schedule.
- When equipment is sold, it is considered an investing activity, and any cash received is reported as a cash inflow from investing activities. When using the direct method, the cash received from the sale of equipment is reported as an investing cash inflow. When using the indirect method, the gain on sale of equipment must be reported as a deduction from net income, because the gain was included in net income, but did not provide any cash from operating activities. The cash received is reported in the investing activities section of the statement of cash flows.
 If the equipment was sold at a loss, the cash received is reported as a cash inflow from investing activities when using the direct method. When using the indirect method, the loss on sale of equipment is added to net income because the loss was included in net income but did not require an operating cash outflow. The cash received is reported as an investing cash inflow.

Authors' Recommended Solution Time
(Time in minutes)

Mini-exercises		Exercises		Problems		Alternate Problems		Cases and Projects	
No.	Time	No.	Time	No.	Time	No.	Time	No.	Time
1	5	1	10	1	25	1	30	1	20
2	5	2	15	2	45	2	60	2	15
3	5	3	15	3	30			3	25
4	5	4	15	4	55			4	30
5	5	5	15					5	35
6	5	6	15					6	*
		7	20					7	*
		8	20					8	*
		9	10					9	*
		10	15					10	*
		11	25					11	*
		12	20						
		13	25						
		14	20						
		15	15						
		16	10						
		17	20						
		18	40						

* Due to the nature of these cases and projects, it is very difficult to estimate the amount of time students will need to complete the assignment. As with any open-ended project, it is possible for students to devote a large amount of time to these assignments. While students often benefit from the extra effort, we find that some become frustrated by the perceived difficulty of the task. You can reduce student frustration and anxiety by making your expectations clear. For example, when our goal is to sharpen research skills, we devote class time discussing research strategies. When we want the students to focus on a real accounting issue, we offer suggestions about possible companies or industries.

MINI-EXERCISES

M13-1.

I	1. Proceeds from sale of properties.
F	2. Purchase of stock. (This involves repurchase of its own stock.)
O	3. Depreciation, depletion, and amortization.
O	4. Accounts payable (decrease).
O	5. Inventories (decrease).
F	6. Principal payment on long-term debt.

M13-2.

+	1. Depreciation, depletion, and amortization.
-	2. Inventories (increase).
-	3. Accounts payable (decrease).
-	4. Accounts receivable (decrease).
+	5. Accrued expenses (increase).

M13-3.

$$\text{Quality of income ratio} = \frac{\text{Cash flow from operations}}{\text{Net income}} = \frac{\$60,000}{\$80,000} = 0.75 \text{ (75\%)}$$

The quality of income ratio measures the portion of income that was generated in cash.

M13-4.

Investing Activities	
Sale of used equipment	\$ 250
Purchase of short-term investments	(300)
Cash used in investing activities	<u>\$ (50)</u>

M13-5.

Financing Activities	
Additional short-term borrowing from bank	\$1,000
Dividends paid	(800)
Cash provided by financing activities	<u>\$ 200</u>

M13-6.

Yes	Purchase of equipment with short-term investments
No	Dividends paid in cash
Yes	Purchase of building with mortgage payable
No	Additional short-term borrowing from bank

EXERCISES

E13-1.

- | | |
|----------|--|
| <u>O</u> | 1. Depreciation. |
| <u>I</u> | 2. Additions to property, plant, and equipment. |
| <u>F</u> | 3. Increase (decrease) in notes payable. (The amount is owed to financial institutions.) |
| <u>O</u> | 4. (Increase) decrease in other current assets. |
| <u>I</u> | 5. Disposal of property, plant, and equipment. |
| <u>F</u> | 6. Reductions in long-term debt including current portion. |
| <u>F</u> | 7. Repurchase of stock. |
| <u>O</u> | 8. (Increase) decrease in inventory. |
| <u>O</u> | 9. Net income. |
| <u>F</u> | 10. Additions to long-term debt. |

E13-2.

- | | | |
|-----|--------|--|
| 1. | - NCFI | Plant and equipment
Cash |
| 2. | NE | Inventory
Accounts payable |
| 3. | + NCFO | Cash
Accounts receivable |
| 4. | NE | Salaries expense
Accrued salaries payable |
| 5. | - NCFO | Interest expense
Cash |
| 6. | - NCFI | Short-term debt
Cash |
| 7. | - NCFO | Prepaid expenses
Cash |
| 8. | + NCFI | Cash
Plant and equipment |
| 9. | - NCFO | Accounts payable
Cash |
| 10. | - NCFI | Retained earnings
Cash |

E13-3.

- | | | |
|-----|--------|--|
| 1. | - NCFO | Income tax expense
Cash |
| 2. | + NCFI | Cash
Common stock
Additional paid-in capital |
| 3. | - NCFO | Prepaid expenses
Cash |
| 4. | NE | Expense
Prepaid expense |
| 5. | - NCFI | Plant and equipment
Cash |
| 6. | + NCFI | Cash
Long-term Debt |
| 7. | + NCFO | Cash
Accounts receivable |
| 8. | NE | Inventory
Accounts payable |
| 9. | - NCFO | Salary expense
Cash |
| 10. | NE | Plant and equipment
Note payable |

E13-4.

While depreciation is indeed added to net income to compute cash flow from operating activities, the new controller's idea will not work. If depreciation expense is increased, net income will decrease by exactly the same amount. When depreciation is added to the new net income number, the sum will be exactly the same as the amount that was computed before depreciation was increased. The only way to increase cash flow is to increase revenues, decrease expenses (other than depreciation), or improve the efficiency of operations (such as collecting receivables more quickly or operating with less inventory).

E13-5.

Comparison of Statement of Cash Flows direct and indirect reporting

Cash flows (and related changes)	Statement of Cash Flows Method	
	Direct	Indirect
1. Revenues from customers	X	
2. Accounts receivable increase or decrease		X
3. Payments to suppliers	X	
4. Inventory increase or decrease		X
5. Accounts payable increase or decrease		X
6. Payments to employees	X	
7. Wages payable, increase or decrease		X
8. Depreciation expense		X
9. Net income		X
10. Cash flows from operating activities	X	X
11. Cash flows from investing activities	X	X
12. Cash flows from financing activities	X	X
13. Net increase or decrease in cash during the period	X	X

The direct method reports cash flows from operating activities individually for each major revenue and expense. In contrast, the indirect method reports a reconciliation of net income to cash flow from operating activities. The two methods report the investing and financing activities in exactly the same way.

E13-6.

Cash flows from operating activities—indirect method

Net income	\$12,000
Depreciation expense	6,000
Accounts receivable increase	(5,000)
Merchandise inventory decrease	8,000
Salaries payable increase	500
Net cash provided by operating activities	<u>\$21,500</u>

E13-7.

Req. 1

Cash flows from operating activities—indirect method

Net income	(\$8,000)
Depreciation expense	7,000
Amortization of copyrights	300
Accounts receivable decrease	12,000
Salaries payable increase	9,000
Service revenue collected in advance decrease	(4,000)
Net cash provided by operating activities	<u>\$16,300</u>

Req. 2

The first reason for the net loss was the depreciation expense. These represent non-cash expenses. Depreciation expense, along with decreased working capital requirements (current assets - current liabilities), turned the net loss into positive operating cash flow. The reasons for the difference between net income and cash flow are important because they help the financial analyst to determine if the trends are sustainable or whether they represent one-time events.

E13-8.

Req. 1

Cash flows from operating activities—indirect method

Net loss.....	(\$9,482)
Depreciation and amortization	33,305
Increase in accounts receivable	(170)
Decrease in inventories.....	643
Increase in prepaid expense.....	(664)
Decrease in accounts payable	(2,282)
Decrease in accrued liabilities.....	(719)
Increase in income taxes payable	1,861
Cash flows from operating activities	<u>\$22,492</u>

Note: The reduction of long-term debt and additions to equipment do not affect cash flows from operating activities.

Req. 2

The primary reason for the net loss was the depreciation and amortization expense. These represent non-cash expenses. Large depreciation and amortization expense, offset partially by increased working capital requirements, turned Sizzler's net loss into positive operating cash flow. The reasons for the difference between net income and cash flow are important because they help the financial analyst to determine if the trends are sustainable or whether they represent one-time events.

E13-9.

Account	Change
Receivables	Increase
Inventories	Decrease
Other current assets	Decrease
Payables	Decrease

E13-10.

Account	Change
Accounts receivable	Increase
Inventories	Decrease
Other current assets	Decrease
Accounts payable	Increase
Income taxes payable	Increase
Other current liabilities	Increase

E13-11.

Req. 1

Cash flows from operating activities—indirect method

Net income.....	\$1,587.9
Depreciation and amortization	1,444.2
Increase in accounts receivable	(161.0)
Increase in inventory.....	(89.5)
Decrease in prepaid expense	3.3
Increase in accounts payable.....	143.2
Decrease in taxes payable	(125.1)
Decrease in other current liabilities.....	(96.7)
Cash flows from operating activities	<u>\$2,706.3</u>

Note: The cash dividend paid and treasury stock purchased are not related to operating activities and do not affect cash flows from operating activities. The decrease in other current liabilities was not explained in the PepsiCo annual report, so its proper inclusion in this computation is a judgment call. If it was not related to operations, it should not be included in the previous computation. In reality, PepsiCo included the decrease on its statement of cash flows.

Req. 2

$$\text{Quality of income ratio} = \frac{\text{Cash flow from operations}}{\text{Net income}} = \frac{\$2,706.3}{\$1,587.9} = 1.70$$

Req. 3

The reason the quality of income ratio was significantly greater than one was because of large non-cash depreciation charges, offset by modest increases in working capital.

E13-12.

The investing and financing sections of the statement of cash flows for Rowe Furniture:

Cash flows from investing activities:

Purchase of property, plant & equipment	(871)	
Sale of marketable securities	134	
Proceeds from sale of property & equipment	<u>6,594</u>	
Net cash flows from investing activities		5,857

Cash flows from financing activities:

Borrowings under line of credit.....	1,417
Proceeds from issuance of common stock.....	11
Payments on long term debt.....	(46)
Payment of dividends	(277)
Purchase of treasury stock.....	<u>(1,583)</u>
Net cash flows from financing activities	(478)

E13-13.

Req. 1

The investing and financing sections of the statement of cash flows for Gibraltar Steel Corporation:

Cash flows from investing activities:

Purchase of property, plant & equipment	(10,468)
Sale of marketable securities	131
Proceeds from sale of property & equipment	<u>1,817</u>
Net cash flows from investing activities	(8,520)

Cash flows from financing activities:

Proceeds from notes payable.....	3,848
Proceeds from issuance of long term debt.....	10,242
Proceeds from initial public offering of common stock	26,061
Payments on long term debt.....	(17,832)
Payment of notes payable.....	<u>(8,598)</u>
Net cash flows from financing activities	13,721

Req. 2

Gibraltar's management is using the cash proceeds from the initial public offering for two purposes. First, it is using the funds to finance the Company's investment in property, plant & equipment. Second, some of the funds are being used to alter the Company's capital structure, as common stock is being used to pay down long-term debt.

E13-14.

Req. 1

$$\text{Capital acquisitions ratio} = \frac{\text{Cash flow from operations}}{\text{Cash Paid for Plant \& Equipment}} = \frac{\$2,900}{\$3,581} = 0.81$$

Req. 2

The capital acquisitions ratio measures the company's ability to finance plant and equipment purchases from operations. Since this amount was less than 1 (0.81), the remainder, or 19%, must have been financed from external sources or preexisting cash balances.

Req. 3

During 20C, Pete's completed an initial public offering of its common stock.

E13-15.

Req. 1

Both of these transactions are considered noncash investing and financing activities, and are not reported on the statement of cash flows. The transactions must be disclosed in a separate schedule or in the footnotes. The information disclosed in the separate schedule would state:

- a. Equipment valued at \$26,000 was acquired by giving a \$15,000, 12%, two-year note, and common stock with a market value of \$11,000.
- b. A machine valued at \$8,700 was acquired by exchanging land with a book value of \$8,700.

Req. 2

The capital acquisitions ratio measures the company's ability to finance plant and equipment purchases from operations. Since neither of these transactions enters the numerator or denominator of the ratio, they would have no effect. Many analysts believe that these transactions represent important capital acquisitions, and thus should be included in the denominator of the ratio to indicate what portion of all (not just cash) acquisitions are being financed from operations.

E13-16.

	1993	1992	1991
Proceeds from sale of property	\$14,768	\$11,623	\$1,797

The amounts reported as proceeds from the sale of property are the cash flows for each year. The gain on the sale of property is subtracted from net income to avoid double counting of the gain. The amount reported in the cash flow from investing activities section of the statement of cash flows is the total cash flow associated with the sale.

E13-17.

Equipment		Accumulated Depreciation	
Beg. Bal.	\$12,500		\$2,000
	\$4,500* Sold	Sold	\$300*
End. Bal.	\$ 8,000		\$2,400

*plug figures

Cost of equipment sold = \$4,500

Accumulated depreciation on sold equipment = \$300

Book value of sold equipment \$4,200

Less: Loss on sale (given) (3,000)

Cash received from sale \$1,200

E13-18.

Item	Balances 12/31/20A	Analysis		Balances 12/31/20B
		Debit	Credit	
Cash plus short-term investments	20,500		i 1,300	19,200
Noncash accounts:				
Accounts receivable (net).....	22,000			22,000
Merchandise inventory.....	68,000	h 7,000		75,000
Investments, long term.....		d 15,000		15,000
Operational assets.....	114,500		i 21,000	113,500
Total.....	<u>225,000</u>			<u>244,700</u>
Accumulated depreciation.....	32,000	i 19,000	c 7,000	20,000
Accounts payable.....	17,000	e 3,000		14,000
Wages payable.....	2,500	f 1,000		1,500
Income taxes payable.....	3,000		g 1,500	4,500
Bonds payable.....	54,000			54,000
Common stock, no par.....	100,000		j 6,000	126,000
Retained earnings.....	16,500	k 12,000	a 20,200	24,700
Total.....	<u>225,000</u>			<u>244,700</u>
Statement of Cash Inflows (Outflows)		Inflows	Outflows	
Conversion of net income to cash flow from operating activities:				
Net income.....		a 20,200		
Depreciation expense.....		c 7,000		
Accounts payable decrease.....			e 3,000	
Wages payable decrease.....			f 1,000	
Income taxes payable increase.....		g 1,500		
Inventory increase.....			h 7,000	
Gain on sale of operational assets.....			i 4,000	\$13,700
Cash flows from investing activities:			d 15,000	
Long-term investment purchased.....				
Sale of operational assets.....		i 6,000		(9,000)
Cash flows from financing activities:				
Sale of capital stock.....		j 6,000		
Dividends paid.....			k 12,000	
Net increase (decrease) in cash.....		l 1,300		(6,000)
Totals.....				<u>(\$1,300)</u>

PROBLEMS

P13-1.

Frank Corporation
Statement of Cash Flows
For the Year Ended December 31, 20B

Cash flows from operating activities:		
Net income.....	\$42,000	
Add (deduct) to convert to cash basis:		
Depreciation expense.....	9,200	
Accounts receivable increase (\$17,000 - \$12,000).....	(5,000)	
Accounts payable decrease (\$10,000 - \$7,000).....	(3,000)	
Inventory decrease (\$60,000 - \$52,000).....	8,000	
Wages payable decrease (\$1,000 - \$800).....	(200)	
Income tax payable increase (\$5,000 - \$3,000).....	2,000	
Net cash flow from operating activities.....		\$53,000
Cash flows from investing activities:		
Machinery sold.....	11,000	
Machinery purchased*.....	(9,000)	
Investments purchased.....	(5,000)	
Net cash flow from investing activities.....		(3,000)
Cash flows from financing activities:		
Borrowed on long-term note payable.....	15,000	
Paid a cash dividend.....	(10,000)	
Net cash inflow from financing activities.....		5,000
Net increase in cash during 20B.....		55,000
Cash, beginning of 20B.....		21,000
Cash, end of 20B.....		<u>\$76,000</u>

ADDITIONAL CASH FLOW INFORMATION

During 20B, the company also purchased machinery for \$41,000 which was financed with a four-year note payable to the dealer. Income taxes paid were \$9,800.** Interest paid was \$12,200.

*Note that the \$41,000 non-cash portion of the purchase and the related financing are not reported in the statement. They are reported separately in the note.

**Income taxes paid = Income tax expense - Increase in income taxes payable.

P13-2.

ROCKY MOUNTAIN CHOCOLATE FACTORY, INC.
Statement of Cash Flows
For the Quarter Ended May 31, 1996

Cash flows from operating activities:		
Net income (accrual basis; from statement of income).....	\$ 163,837	
Add (deduct) to reconcile net income to net cash flow:		
Accounts receivable increase.....	(138,681)	
Inventories increase.....	(243,880)	
Other current assets increase.....	(357,507)	
Accounts payable increase.....	280,935	
Accrued liabilities increase.....	164,087	
Income taxes payable decrease.....	(43,031)	
Long-term A/R decrease.....	11,382	
Depreciation expense.....	276,304	
Amortization expense.....	5,901	
Net cash inflow from operating activities.....		\$ 119,347
Cash flows from investing activities:		
Fixed assets purchased.....	(1,081,121)	
Other assets decrease.....	50,055	
Net cash inflow from operating activities.....		(1,031,066)
Cash flows from financing activities:		
Repayment of short-term debt.....	(1,000,000)	
Repayment of long-term debt.....	(2,355,029)	
Issuance of long-term debt.....	4,659,466	
Net cash inflow from financing activities.....		1,304,437
Net increase in cash during the quarter.....		392,718
Cash, February 29, 1996.....		528,787
Cash, May 31, 1996.....		<u>\$ 921,505</u>

P13-3.

Req. 1

BETA COMPANY
Cash Flows from Operating Activities
Direct Method

Cash flows from operating activities:	
Cash receipts from customers.....	\$20,670
Cash payments to suppliers.....	(8,992)
Cash payments for salaries.....	(4,991)
Cash payments for rent.....	(2,499)
Cash payments for insurance.....	(809)
Cash payments for utilities.....	(700)
Cash payments for bond interest.....	(600)
Net cash provided by operating activities.....	<u>\$ 2,079</u>

Req. 2

BETA COMPANY
Cash Flows from Operating Activities
Indirect Method

Cash flows from operating activities:	
Net loss.....	\$ (400)
Adjustments to reconcile net loss to net cash provided by operating activities:	
Decrease in accounts receivable.....	\$ 70
Increase in merchandise inventory.....	(22)
Increase in accounts payable.....	30
Depreciation expense.....	2,000
Increase in salaries payable.....	9
Decrease in rent payable.....	(4)
Decrease in prepaid rent.....	5
Increase in prepaid insurance.....	(9)
Loss on sale of investments.....	400
Total adjustments.....	<u>2,479</u>
Net cash provided by operating activities.....	<u>\$2,079</u>

P13-4.

Req. 1

Statement of Cash Flows Spreadsheet
Hunter Company
For the Year Ended December 31, 20B

BALANCE SHEET	12-31-20A	DR	CR	12-31-20B
Cash	18,000	26,000 (k)		44,000
Accounts receivable	29,000		2,000 (b)	27,000
Merchandise inventory	36,000		6,000 (c)	30,000
Fixed assets-net	72,000	9,000 (g)	6,000 (e)	75,000
Total	<u>155,000</u>			<u>176,000</u>
Accounts payable	22,000		3,000 (d)	25,000
Wages payable	1,000	200 (f)		800
Notes payable, long-term	48,000	10,000 (h)		38,000
Common stock-no par	60,000		20,000 (i)	80,000
Retained earnings	24,000	3,800 (j)	12,000 (a)	32,200
Total	<u>155,000</u>	<u>49,000</u>	<u>49,000</u>	<u>176,000</u>

P13-4. (continued)

STATEMENT OF CASH FLOWS-INDIRECT METHOD	Inflow		Outflow
Cash flows from operating activities:			
Net income	12,000 (a)		
Adjustment to net income			
Decrease in accounts receivable	2,000 (b)		
Decrease in merchandise inventory	6,000 (c)		
Increase in accounts payable	3,000 (d)		
Depreciation expense	6,000 (e)		
Decrease in wages payable		200 (f)	28,800
Cash flows from investing activities:			
Cash payment to purchase fixed assets			9,000 (g)
Cash flows from financing activities:			
Cash payments on long-term note			10,000 (h)
Cash receipts from issuing stock	20,000 (i)		
Cash payments for dividends			3,800 (j)
Increase (decrease) in cash during the year		26,000 (k)	26,000
Totals	<u>49,000</u>	<u>49,000</u>	
Cash balance, Jan. 1			18,000
Cash balance, Dec. 31			<u>44,000</u>

P3-4. (continued)

Req. 2

HUNTER COMPANY
Statement of Cash Flows
For the Year Ended December 31, 20B

Cash flows from operating activities:	
Net income.....	\$12,000
Adjustments to reconcile net income to net cash provided by operating activities:	
Decrease in accounts receivable.....	\$ 2,000
Decrease in merchandise inventory.....	6,000
Increase in accounts payable.....	3,000
Depreciation expense.....	6,000
Decrease in wages payable.....	(200)
Total adjustments.....	<u>16,800</u>
Net cash provided by operating activities.....	28,800
Cash flows from investing activities:	
Cash payments to purchase fixed assets.....	(9,000)
Cash flows from financing activities:	
Cash payments on long-term note.....	(10,000)
Cash receipts from issuing stock.....	20,000
Cash payments for dividends.....	(3,800)
Net cash provided by financing activities.....	6,200
Net increase in cash during the year.....	26,000
Cash balance, January 1, 20B.....	18,000
Cash balance, December 31, 20B.....	<u>\$44,000</u>

Req. 3

There were no noncash investing and financing activities during 20B.

ALTERNATE PROBLEMS

AP13-1.

STONEWALL COMPANY
Statement of Cash Flows
For the Year Ended December 31, 20A

Cash flows from operating activities:	
Net income (accrual basis; from statement of income).....	\$ 9,000
Add (deduct) to reconcile net income to net cash flow:	
Accounts receivable increase.....	(18,000)
Inventory increase.....	(15,000)
Accounts payable increase.....	10,000
Accrued expenses payable increase.....	21,000
Depreciation expense.....	4,000
Net cash inflow from operating activities.....	\$11,000
Cash flows from investing activities:	
Machinery purchased.....	(29,000)
Cash flows from financing activities:	
Issuance of capital stock.....	54,000
Borrowed on short-term note payable.....	15,000
Paid a cash dividend.....	(3,000)
Net cash inflow from financing activities.....	66,000
Net increase in cash during 20A.....	48,000
Cash, beginning of 20A.....	0
Cash, end of 20A*.....	\$48,000

ADDITIONAL CASH FLOW INFORMATION

During 20A, the company also exchanged plant machinery with a book value of \$2,000 for office machines with a market value of \$2,000.

*Because this is the first year of operations, all account balances are zero at the beginning of the year; therefore, the changes in the account balances were equal to the ending balances. The \$48,000 agrees with the cash account.

AP13-2.

Req. 1. **Statement of Cash Flows Spreadsheet**
Ellington Company
For the Year Ended December 31, 20B

BALANCE SHEET	12-31-20A	DR	CR	12-31-20B
	Cash	21,000	1,400 (n)		22,400
Accounts receivable	18,000	3,000 (b)		21,000
Inventory	35,000		3,000 (h)	32,000
Prepaid insurance	2,400		1,000 (e)	1,400
Investments, long term	12,500		3,200 (j)	9,300
Fixed assets-net	31,100	33,000 (k)	4,500 (c)	59,600
Patent	2,000		500 (d)	1,500
Total	122,000			147,200
Accounts payable	27,000	12,000 (i)		15,000
Wages payable	4,000	3,000 (f)		1,000
Income tax payable	2,000		200 (g)	2,200
Note payable, long-term	20,000	10,000 (l)		10,000
Common stock-\$10 par	50,000		30,000 (k)	80,000
Contributed capital	3,000		3,000 (k)	6,000
Retained earnings	16,000	8,500 (m)	25,500 (a)	33,000
Total	122,000	70,900	70,900	147,200

AP13-2. (continued)

STATEMENT OF CASH FLOWS-INDIRECT METHOD	Inflow	Outflow	
	DR	CR	
Cash flows from operating activities:			
Net income	25,500 (a)		
Adjustment to net income:			
Increase in accounts receivable		3,000 (b)	
Depreciation expense	4,500 (c)		
Patent amortization	500 (d)		
Decrease in prepaid insurance	1,000 (e)		
Decrease in wages payable		3,000 (f)	
Increase in income tax payable	200 (g)		
Decrease in inventory	3,000 (h)		
Decrease in accounts payable		12,000 (i)	16,700
Cash flows from investing activities:			
Cash receipts from sale of long-term investments:	3,200 (j)		3,200
Cash flows from financing activities:			
Cash payments on long-term note payable		10,000 (l)	
Cash payments for dividends		8,500 (m)	(18,500)
Increase (decrease) in cash during the year		1,400 (n)	1,400
Totals	37,900	37,900	
Cash balance, Jan. 1, 20B			21,000
Cash balance, Dec. 31, 20B			22,400

AP13-2. (continued)

Req. 2 **ELLINGTON COMPANY**
Statement of Cash Flows
For the Year Ended December 31, 20B

Cash flows from operating activities:	
Net income.....	\$25,500
Adjustments to reconcile net income to net cash.....	
provided by operating activities:	
Increase in accounts receivable.....	\$(3,000)
Depreciation expense.....	4,500
Patent amortization.....	500
Decrease in prepaid insurance.....	1,000
Decrease in wages payable.....	(3,000)
Increase in income tax payable.....	200
Decrease in inventory.....	3,000
Decrease in accounts payable.....	(12,000)
Total adjustments.....	(8,800)
Net cash provided by operating activities.....	\$16,700
Cash flows from investing activities:	
Cash receipts from sale of long-term investments.....	3,200
Cash flows from financing activities:	
Cash payments on long-term note payable.....	\$(10,000)
Cash payments for dividends.....	(8,500)
Net cash used by financing activities.....	(18,500)
Net increase in cash during the year.....	1,400
Cash balance, January 1, 20B.....	21,000
Cash balance, December 31, 20B.....	\$22,400

Req. 3 **Schedule of Noncash**
Investing and Financing Activities

The company issued common stock with a market value of \$33,000 in exchange for fixed assets.

CASES AND PROJECTS

FINANCIAL REPORTING AND ANALYSIS CASES

CP13-1.

- The company uses the indirect method.
- Tax payments of \$41,706 thousand were made (Note 2, Supplemental Disclosures of Cash Flow Information).
- "Restricted stock compensation" is a noncurrent accrued expense (an expense paid with common stock). It was added back to net income because this type of expense does not cause a cash outflow when it is recorded. "Loss on impairment and write-off of fixed assets" relates to an investing activity and did not affect cash. Like noncurrent accrued expenses, this loss must be added back to net income because it does not cause a cash outflow when it is recorded.
- Free Cash Flow was \$34,902 thousand, calculated as (in thousands):

Cash Flows from Operating Activities	\$59,821
less Dividends	0
less Capital Expenditures	24,919
Free Cash Flow	<u>\$34,902</u>

- No, the company has not paid cash dividends during the last three years. There are no dividend payments listed under the Financing section of the statement of cash flows. This fact is also noted in Note 12, Subsequent Events.

CP13-2.

- The three largest "Adjustments to reconcile net income to net cash provided by operating activities" were:
 - Increase in payables, accrued expenses and other liabilities: The increase of \$11,030 was added to net income in the reconciliation because cash payments to suppliers were less than goods and services purchased.
 - Depreciation and amortization: The \$5,621 expense was added to net income in the reconciliation because it is a noncurrent accrued expense, which does not cause a cash outflow when it is recorded.
 - Increase in inventory: The increase of \$4,753 was subtracted from net income in the reconciliation because more inventory was purchased than was sold.

CP13-2. (continued)

- Urban Outfitters' major uses of cash over the past three years have been capital expenditures, purchases of marketable securities, and purchases of inventories. The major sources of cash for these activities have been cash flow provided by operating activities and cash received from the exercise of stock options. Over the next few years, the company expects to incur additional capital expenditures to support its planned expansion. The primary sources of financing these future expenditures are expected to be its current cash and cash equivalents and future cash flows provided by operating activities. This is discussed in the "liquidity and capital resources" section of Management's Discussion and Analysis.
- Free Cash Flow was \$5,723 thousand, calculated as (in thousands):

Cash Flows from Operating Activities	\$27,244
less Dividends	0
less Capital Expenditures	21,521
Free Cash Flow	<u>\$5,723</u>

This implies that the company is limited in its financial flexibility.

CP13-3.

		Urban Outfitters	American Eagle Outfitters
Quality of income ratio =	$\frac{\text{Cash flow from operations}}{\text{Net income}}$	$\frac{\$27,244}{\$15,760} = 1.73$	$\frac{\$59,821}{\$54,118} = 1.11$

American Eagle Outfitters has a lower quality of income ratio than does Urban Outfitters. This difference might be explained by the difference in the two companies' sales growth rates. American Eagle Outfitters has a higher sales growth rate of 44.8% [calculated as $(\$587,600 - \$405,713) \div \$405,713$], compared to Urban Outfitters sales growth rate of 20.7% [calculated as $(\$208,969 - \$173,121) \div \$173,121$]. When sales are growing, receivables and inventory normally increase faster than accounts payable. This often reduces operating cash flows below income, which, in turn, reduces the quality of income ratio.

CP13-3. (continued)

	Industry Average	Urban Outfitters	American Eagle Outfitters
Quality of Income =	2.19	1.73	1.11

Both Urban Outfitters' and American Eagle Outfitters' quality of income ratios are below the industry average. This means that both companies are generating less cash from operations relative to net income than the average company in their industry.

	Industry Average	Urban Outfitters	American Eagle Outfitters
Sales Growth =	16.2%	20.7%	44.8%

Both Urban Outfitters' and American Eagle Outfitters' sales growth is above the industry average. High sales growth usually means accounts receivable and inventories will grow faster than accounts payable, which reduces cash flows relative to net income, and consequently the quality of income ratio.

		Urban Outfitters	American Eagle Outfitters
Capital acquisitions ratio =	$\frac{\text{Cash flow from operations}}{\text{Cash Paid for Plant \& Equipment}}$	$\frac{\$27,244}{\$21,521} = 1.27$	$\frac{\$59,821}{\$24,919} = 2.40$

American Eagle Outfitters has a higher capital acquisitions ratio than does Urban Outfitters. This implies that American Eagle Outfitters has a greater ability to fund additional capital expenditures from the cash flow provided by its operating activities.

	Industry Average	Urban Outfitters	American Eagle Outfitters
Capital Acquisitions =	1.79	1.27	2.40

American Eagle Outfitters' capital acquisitions ratio is above the industry average, Urban Outfitters' capital acquisitions ratio is below the industry average. American Eagle Outfitters is better able to finance capital acquisitions with cash flows from operations than the average company in the industry. Urban Outfitters is not able to finance capital acquisitions with cash flows from operations as well as the average company in the industry. Often times such differences are related to whether companies own or lease their property, plant, and equipment.

CP13-4.

- The company uses an indirect method to present the operating section of the cash flow statement. Note 32 presents the reconciliation of income (in this case, beginning with operating profit) to cash flows from operating activities.
- Some of the terms used in the statement may be unfamiliar to U.S. students. The statement itself is a "group" cash flow statement, compared to Boston Beer's "consolidated" statement. In the reconciliation of net income to cash flow from operations, the changes in the typical balance sheet accounts are listed but may not be easily identified as such: decrease in stocks (inventory), decrease in debtors (accounts receivable), and decrease in creditors (accounts payable).

Differences also exist in the structure of the statement. Consider cash flows from operating activities. Cash flow from operating activities is presented in a note to the financial statements, not on the statement itself. Cash flow from operating activities is divided between cash from ordinary operating activities and unusual items. Interest received and interest paid are listed under "returns on investments and servicing of finance" rather than as part of operating activities. Taxation payments are also listed separately. In Boston Beer's statement, interest and tax payments are not readily available from the statement itself, but are provided in supplemental disclosure. As such, Scottish & Newcastle's presentation of operating activities is arguably a mixture of the indirect and direct methods.

The investing section of the statement should look more familiar to U.S. students, with the exception that acquisitions and disposals are granted their own section on the statement. Under U.S. GAAP, these would be included as line items within the investing activities section.

More differences are found between the financing sections of the statements. Recall that under U.S. GAAP, dividends are treated as a financing item. In the Scottish & Newcastle statement, dividends are listed in two different locations: preferred dividends are listed along with interest under "returns on investments and servicing of finance" and dividends on common stock is listed as a separate line item ("equity dividends paid").

A subtotal is provided before considering "liquid resources and financing." Liquid resources are term deposits of less than one year. On Boston Beer's statement, these would likely be listed as short-term investments (an investing activity).

The effect of these differences is to focus the investors' attention away from operating activities (highlighted on U.S. statements) and onto service payments (such as interest, taxation, and dividends), liquidity, and solvency (discussed further in Chapter 14). This redirection is also visible in the additional notes required reconciling net cash flow to movement in net debt and the analysis of net debt.

CRITICAL THINKING CASES**CP13-5.**

Date: (today's date)
 To: Supervising Analyst
 From: (your name)
 Re: Evaluation of Carlyle Golf, Inc.'s Planned Expansion

While many companies experience losses and negative cash flows during the early years of their operations, the cash situation for Carlyle Golf is a major concern. The company has announced plans to increase inventory by \$2 million but there is no obvious source to finance the acquisition of this inventory. The statement of cash flows shows that the company has to make cash deposits with its suppliers. It is unlikely that these suppliers will be a major source of financing for Carlyle's inventory. The company obviously does not have enough cash on hand to finance its expansion of inventory.

The planned expansion of inventory has additional implications. The company must have plans to expand its sales volume. There is no information in the company's report concerning whether this expansion will require additional expenditures, such as increased advertising or hiring new sales people. In any case, the expansion will most likely require an increase in accounts receivable. Most companies underestimate the amount of resources that must be tied up in inventory and accounts receivable when they expand sales volume.

Carlyle should seek additional capital to support an increased level of operations. Without this extra capital, it is unlikely that Carlyle can continue in business.

Instructor's note: Subsequent to September 1992, Carlyle sought new financing through an initial public offering. At the time of this writing, the company is still trying to develop a niche in a very competitive market.

FINANCIAL REPORTING AND ANALYSIS PROJECTS**CP13-6 through CP13-11.**

The solutions to these cases will depend on the company and/or accounting period selected for analysis.

summaries provide particularly useful information in making these projections. Financial data covering only one or two periods have limited usefulness for this particular type of decision.

The primary limitation of unusually long-term summaries is that early years may not be useful because of changes in the business, industry, and environment.

- Ratio analysis is a technique for computing and pinpointing certain significant relationships in the financial statements. A ratio or percent expresses a proportionate relationship between two different amounts reported on the financial statements. A ratio is computed by dividing one amount by another amount; the divisor is known as the base amount. For example, the profit margin ratio is computed by dividing income by net sales. Ratio analysis is particularly useful because it may reveal critical relationships that are not readily apparent from absolute dollar amounts.
- Component percentages are representations, as ratios or percents, of the relationships between each of the several individual amounts that make up a single total. For example, on the balance sheet the component percentages for assets are computed by dividing the amount of each individual asset by the amount of total assets. The resulting ratios or percentages will sum to 100 percent. Component percentages are useful because they reveal relative relationships that are not readily apparent from absolute dollar amounts.
- Fundamentally, return on investment is income divided by investment. The two concepts of return on investment are:
 - Return on equity (net income divided by owners' investment). This rate reflects the return earned for the owners after deducting the return to the creditors (interest expense is a deduction to derive income).
 - Return on assets (return on total assets, which includes both owners' equity and creditors' equity). This rate reflects the return earned on the total resources employed. The computation is net income plus after-tax interest expense divided by total assets. Usually both concepts are applied because each serves a somewhat different purpose. Return on equity reflects the viewpoint of the owners because it measures the net return on their investment only. Return on assets reflects the earnings performance of the company on total resources used (i.e., from both owners and creditors).
- Financial leverage percentage is measured as the difference between the rate of return on equity and the rate of return on assets. This difference is caused only by interest on debt. An excess of the rate of return on equity over the rate of return on assets is due to financial leverage; that is, the company earned a higher rate on total investment than the net-of-tax interest rate on all debt. This advantage accrues to the benefit of the stockholders (i.e., positive leverage).

Chapter 14

Analyzing Financial Statements

ANSWERS TO QUESTIONS

- The three fundamental uses of external financial statements by decision makers are:
 - Measurement of past performance—how the business performed in the past.
 - Measurement of the present condition of the business—how the business stands today.
 - Prediction of the future performance of the business—the primary use of financial statements.
 - Primary items on the financial statements about which creditors usually are concerned include: (a) income—profit potential of the business, (b) cash flows—ability of the business to generate cash, and (c) assets and debts—financial position.
 - The notes to the financial statements are particularly important to decision makers because they explain, usually in narrative fashion, circumstances and special events which cannot be communicated adequately in the body of the financial statements. The notes call attention to such items as pending problems, contingent liabilities, and circumstances surrounding certain judgments that were made in measuring and reporting. They are useful in interpreting the amounts given in the financial statements and in making projections of the future performance of the business.
 - The primary purpose of comparative financial statements is to provide the user with information on the **short-term trends** of the various financial factors reported in the financial statements. For example, the trends of such factors as sales, expenses, income, amount of debt, retained earnings, and earnings per share are particularly important in assessing the record of the company in the past and the present. These short-term trends should be used in predicting future performance of the business. Comparative statements usually report only two consecutive periods which often is too short to assess adequately certain trends.
 - Statement users are interested especially in financial summaries covering several years because the **long-term trends** of the business are revealed. Statement users must make projections of the future performance of the business in their decisions to either invest or disinvest. Long-term financial
- Profit margin is the ratio between net income and net sales. It reflects performance in respect to the control of expenses to net sales but is deficient as a measure of profitability because it does not consider the amount of resources (i.e., investment) used to earn the income amount. Profitability is best measured as the ratio of income to investment.
 - The current ratio is computed by dividing total current assets by total current liabilities. In contrast, the quick ratio is computed by dividing quick assets (i.e., the sum of cash, short-term investments, and accounts receivable) by current liabilities. The current ratio tends to measure liquidity and to indicate the cushion of current assets over current liabilities. In contrast the quick ratio is a much more severe test of current liquidity because the assets used in computing the ratio are cash and those that are very near to cash.
 - A debt/equity ratio reflects the portion of total assets or resources used by a business that was provided by creditors versus owners (stockholders). In some companies, the amount of debt is approximately 70 percent of the total assets which means that the company is highly leveraged, which is a favorable side of financing by debt. That is, a company earning, say, 20 percent on total assets, while at the same time paying interest of 8 percent on debt, would generate a difference which accrues to the benefit of the stockholders. On the other side, the interest on debt must be paid each period, regardless of whether income was earned, and at the maturity of the debt, the full principal must be paid. In contrast, resources provided by owners are much less risky to the business because dividends do not have to be paid unless there are earnings (and they are declared by the board of directors) and there is no fixed maturity amount to be paid on a specific due date in the future.
 - Market tests are intended to measure the "market worth" per share of stock. Market tests relate some amount to a share of stock (such as EPS or dividends paid 'per share). Each time the share price changes the measurement changes. The two commonly used market tests are: (a) price/earnings ratio (i.e., market price per share divided by EPS) and (b) dividend yield ratio (i.e., dividends per share divided by the market price per share).
 - The primary limitations associated with using ratios are:
 - no specification exists (which is generally agreed upon) of how each ratio should be computed and (b) evaluation of the results (i.e., whether a ratio at a given amount is good or bad) is subjective. The latter problem indicates a need to select one or more "standards" against which the computed ratio amount may be compared.

Authors' Recommended Solution Time
(Time in minutes)

Mini - exercises		Exercises		Problems		Alternate Problems		Cases and Projects	
No.	Time	No.	Time	No.	Time	No.	Time	No.	Time
1	5	1	30	1	60	A1	60	1	50
2	5	2	30	2	45	A2	45	2	50
3	5	3	30	3	60	A3	20	3	45
4	5	4	15	4	20	A4	60	4	25
5	5	5	20	5	60	A5	60	5	25
6	5	6	20	6	30	A6	25	6	40
7	5	7	30	7	60	A7	25	7	30
8	5	8	25	8	30			8	25
9	5	9	20	9	60			9	25
10	5	10	30	10	25			10	*
		11	30	11	25			11	*
		12	25					12	45
		13	25					13	*
		14	25					14	*
		15	25					15	*
								16	*
								17	*
								18	*
								19	*

* Due to the nature of these cases and projects, it is very difficult to estimate the amount of time students will need to complete the assignment. As with any open-ended project, it is possible for students to devote a large amount of time to these assignments. While students often benefit from the extra effort, we find that some become frustrated by the perceived difficulty of the task. You can reduce student frustration and anxiety by making your expectations clear. For example, when our goal is to sharpen research skills, we devote class time discussing research strategies. When we want the students to focus on a real accounting issue, we offer suggestions about possible companies or industries.

MINI-EXERCISES

M14-1.

X ÷ \$1,680,145,000	=	55.9%
X	=	\$939,201,000
Revenue	\$1,680,145,000	
Cost of Goods Sold	(X)	
Gross Profit	\$939,201,055	
Cost of Goods Sold	\$740,943,945	

M14-2.

20B	
Sales	\$22,339 *
Cost of Goods Sold	(\$9,330)
Gross Profit	\$13,009

*Sales 20B: \$20,917 x 1.068 = \$22,339

Gross Profit %: \$13,009 ÷ \$22,339 = 58.2%

M14-3.

\$185,000 / [(\$1,000,000 + \$1,200,000) ÷ 2] = 16.8%

M14-4.

22% - 8% = 14%

M14-5.

If the average sales volume remains the same, then the cost of goods sold will also remain the same. If the inventory decreases by 25%, the inventory ratio will increase.

M14-6.

Current Assets X
+ Non-Current Assets \$480,000
Total Assets \$1,200,000
Current Assets = \$720,000
\$720,000 ÷ Current Liabilities = 1.5
Current Liabilities = \$480,000

M14-7.

Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$
Quick Ratio = $\frac{\text{Quick Assets}}{\text{Current Liabilities}}$

By the definitions of current ratio and quick ratio, one can see that the quick ratio must always be less than or equal to the current ratio. We know that a mistake has been made in this case because the quick ratio is greater than the current ratio and that is not possible.

M14-8.

Market Price per Share \$212.50 ÷ Earnings per Share \$8.50 = P / E multiplier 25
\$8.50 x 1.20 = \$10.20
\$10.20 x 25 = New Stock Price \$255

M14-9.

5% = \$2.00 ÷ Market Price per Share
\$40.00 = Market Price per Share

M14-10.

In most circumstances, a change from FIFO to LIFO will cause inventory to decrease and cost of good sold to increase.

Profit Margin	Will decrease
Fixed Asset Turnover	Will not be affected
Current Ratio	Will decrease
Quick Ratio	Will not be affected

EXERCISES

E14-1.

1. **A** Profit margin
2. **H** Inventory turnover ratio
3. **B** Average collection period
4. **J** Creditors' equity to total equities
5. **M** Dividend yield ratio
6. **C** Return on equity
7. **G** Current ratio
8. **L** Debt/equity ratio
9. **O** Price/earnings ratio
10. **E** Financial leverage percentage
11. **I** Receivable turnover ratio
12. **K** Average days' supply of inventory
13. **N** Owners' equity to total equities
14. **D** Earnings per share
15. **Q** Return on assets
16. **F** Quick ratio
17. **P** Book value per share
18. **T** Times interest earned
19. **R** Cash coverage ratio
20. **S** Fixed asset turnover

E14-2.

	1999	1998
Cost of Sales	72.8%	72.8%
Selling	21.6%	21.8%
Interest Expense	0	0
Interest Income	0	0
Gain on Sale of Long Term Assets	0	.2%
Income Tax Expense	2.3%	2.2%
Change in Accounting Method	0	.2%
Net Earnings	3.5%	3.3%

There are no significant changes in the percentages from 1998 to 1999. This suggests that Walgreens is a very stable, well-run company that has costs under control.

E14-3.

	Current Assets (1)	Current Liabilities (2)	Working Capital (1 - 2)	Current Ratio (1 ÷ 2)	
Start	\$54,000	(\$54,000 ÷ 1.8)	\$30,000	24,000	1.8
Transaction (1)	Inventory +6,000	Accts. Pay. +6,000			
Subtotal	60,000	36,000	24,000	1.67	
Transaction (2)*	Cash -1,000				
	<u>\$59,000</u>	<u>\$36,000</u>	23,000	1.64	

*Debt and truck are noncurrent items.

E14-4.

Effect on Current Ratio

1.	Increase, assuming that cash was collected from sale
2.	Will decrease
3.	Will decrease
4.	Will increase

E14-5.

Turnover:

$$\begin{aligned} \text{Accounts receivable } \$11,438^* \div [(\$2,940 + \$2,781) \div 2] &= 4.0 \\ \text{Inventory } (\$38,125 \times .55) \div [(\$3,380 + \$3,284) \div 2] &= 6.29 \\ *\$38,125 \times 30\% = \$11,438 \end{aligned}$$

Days:

$$\begin{aligned} \text{Accounts receivable } (365 \text{ days} \div 4.0) &= 91.25 \\ \text{Inventory } (365 \text{ days} \div 6.29) &= 58 \end{aligned}$$

E14-6.

$$\begin{aligned} \text{Rate of return on equity } \$1,180 \div (\$28,728 - \$16,506) &= 9.7\% \\ \text{Rate of return on assets} & \\ \$1,180 \div [(\$16,506 \times .08 \times .7)] + \$28,728 &= 7.3\% \\ \text{Financial leverage percentage (positive)} &= 2.4\% \end{aligned}$$

E14-7.

	Current Assets (1)	Current Liabilities (2)	Working Capital (1 - 2)	Current Ratio (1 ÷ 2)	
Start	\$100,000	(\$100,000 ÷ 1.5)	\$66,667	33,333	1.5
Transaction (1)	Cash -6,000	Accts. pay. -6,000			
Subtotal	94,000	60,667	33,333	1.55	
Transaction (2)	Cash -10,000	60,667	23,333	1.38	
Transaction (3)	No impact				
Transaction (4)	Cash 84,000	60,667	23,333	1.38	
	<u>-25,000</u>	<u>-25,000</u>			
	<u>\$ 59,000</u>	<u>\$35,667</u>	23,333	1.65	

E14-8.

$$\begin{aligned} \text{Cost of Goods Sold} &= 3.0 \times \$721,843,000 \\ \text{Cost of Goods Sold} &= \$2,165,529,000 \\ \text{Net Sales} &= 11.4 \times \$283,142,000 \\ \text{Net Sales} &= \$3,227,818,800 \\ \text{less: COGS} &= (\$2,165,529,000) \\ \text{Gross Margin} &= \$1,062,289,800 \end{aligned}$$

E14-9.

Turnover:

$$\begin{aligned} \text{Accounts receivable } \$300,000^* \div [(\$40,000 + \$60,000) \div 2] &= 6.0 \\ \text{Inventory } (\$600,000 \times .6) \div [(\$70,000 + \$30,000) \div 2] &= 7.2 \\ *\$600,000 \times 50\% = \$300,000 \end{aligned}$$

Days:

$$\begin{aligned} \text{Accounts receivable } (365 \text{ days} \div 6) &= 60.8 \\ \text{Inventory } (365 \text{ days} \div 7.2) &= 50.7 \end{aligned}$$

E14-10.

	Current Assets (1)	Current Liabilities (2)	Working Capital (1 - 2)	Current Ratio (1 ÷ 2)	
Start	\$500,000	(\$500,000 ÷ 2)	\$250,000	250,000	2.0
Transaction (1)	A/R* +12,000				
Subtotal	512,000	250,000	262,000	2.05	
Transaction (2)		Dividends pay. +50,000			
	<u>512,000</u>	<u>300,000</u>	212,000	1.71	
Transaction (3)	Cash -12,000				
Prepaid +12,000	<u>512,000</u>	<u>300,000</u>	212,000	1.71	
Transaction (4)	Cash -50,000	Dividends pay. -50,000			
	<u>462,000</u>	<u>250,000</u>	212,000	1.85	
Transaction (5)	Cash +12,000				
A/R -12,000	<u>462,000</u>	<u>250,000</u>	212,000	1.85	
Transaction (6)		ST Lia. +40,000			
	<u>462,000</u>	<u>290,000</u>	172,000	1.59	

*We assume that the periodic inventory system is used and, therefore, there is no impact on inventory. Some students will try to try to reduce inventory as part of this transaction.

E14-11.

Current Ratio	$\frac{\$434,331}{\$128,888}$	=	3.37
Quick Ratio	$\frac{\$290,197}{\$128,888}$	=	2.25
Inventory Turnover	$\frac{\$1,066,706,000}{[(\$129,655,000 + \$137,983,000) \div 2]}$	=	7.97
Account Receivable Turnover	$\frac{\$1,050,940,800^*}{[(\$202,079,000 + \$185,938,000) \div 2]}$	=	5.42
	*\$1,751,568,000 (60%) = \$1,050,940,800		

E14-12.

1. Car manufacturer (high inventory; high property & equipment; lower inventory turnover)
2. Wholesale candy company (high inventory turnover)
3. Retail fur store (high gross profit; high inventory)
4. Advertising agency (low inventory; absence of gross profit)

E14-13.

1. Meat packer (high inventory turnover)
2. Travel agency (no gross profit or inventory; high receivables)
3. Hotel (high property & equipment; no gross profit or inventory)
4. Drug company (high gross profit)

E14-14.

1. Cable T.V. Company (no gross profit; high property & equipment)
2. Accounting firm (high receivables; no gross profit)
3. Retail jewelry store (high inventory; high gross profit)
4. Grocery store (high inventory turnover)

E14-15.

1. Restaurant (high inventory turnover; high property & equipment)
2. Full-line department store (high cost of inventory; high gross profit)
3. Automobile dealer (high cost of inventory; low property & equipment)
4. Wholesale fish company (high inventory turnover; lower gross profit)

PROBLEMS

P14-1.

Req. 1

	Increase (Decrease)	
	20B over 20A	Percent
Income statement:		
Sales revenue	\$15,000	9.09
Cost of goods sold	10,000	10.00
Gross margin	5,000	7.69
Operating expenses and interest expense	3,000	5.66
Pretax income	2,000	16.67
Income tax	1,000	33.33
Net income	\$ 1,000	11.11
Balance sheet:		
Cash	\$ (4,000)	(50.00)
Accounts receivable (net)	(4,000)	(22.22)
Inventory	5,000	14.29
Operational assets (net)	7,000	18.42
	\$ 4,000	4.04
Current liabilities	\$ (3,000)	(15.79)
Long-term liabilities	0	0
Common stock (\$5 par)	0	0
Retained earnings	7,000	1.4
	\$ 4,000	4.04

Req. 2

a. Percentage increase:

Sales revenue (per Requirement 1)	9.09%	
Net income (per Requirement 1)	11.11%	
Cash (per Requirement 1)	50.00%	decrease
Inventory (per Requirement 1)	14.29%	
Liabilities*	4.69%	decrease
Owners' equity*	20.00%	

*Computations:

Liabilities:
 $[(\$16,000 + \$45,000) - (\$19,000 + \$45,000)] \div (\$19,000 + \$45,000) = (\$61,000 - \$64,000) \div \$64,000 = \underline{4.69\%}$

Owners' equity:
 $[(\$30,000 + \$12,000) - (\$30,000 + \$5,000)] \div (\$30,000 + \$5,000) = (\$42,000 - \$35,000) \div \$35,000 = \underline{20.00\%}$

P14-1. (continued)

Req. 2 (continued)

b. Working capital:

	20B	20A
Current Assets:		
Cash	\$ 4,000	\$ 8,000
Accounts receivable (net)	14,000	18,000
Inventory	40,000	35,000
Total Current Assets	58,000	61,000
Current Liabilities	16,000	19,000
Working Capital	\$42,000	\$42,000

Change: \$42,000 - \$42,000 = \$0 no change

c. The average tax rate increased 14.4%.

Average tax rates:
 20A, $\$3,000 \div \$12,000 = 25\%$; 20B, $\$4,000 \div \$14,000 = 28.6\%$; $(25.0 - 28.6) \div 25 = 14.4\%$ increase

d. Cash inflow from revenues:

Total revenue	\$180,000
Decrease in accounts receivable (\$18,000 - \$14,000)	4,000
Total	\$184,000

e. 20A: $\$65,000 \div \$165,000 = 39.4\%$

20B: $\$70,000 \div \$180,000 = 38.9\%$
 0.5% Decrease in markup realized on goods sold

f. The book value per share in 20A was, $\$35,000 \div 6,000$ shares = \$5.83. At end of 20B it was $\$42,000 \div 6,000$ shares = \$7.00. The book value per share increased: $\$7.00 - \$5.83 = \$1.17$

P14-2. (Based on data given in Problem 14-1)

Req. 1

	Component Percentages 20B
Income statement:	
Sales revenue (the base amount)	100
Cost of goods sold	61
Gross margin on sales	39
Operating expenses	31
Pretax income	8
Income taxes	2
Net income	6
Balance sheet	
Cash	4
Accounts receivable (net)	14
Inventory	39
Operational assets (net)	43*
Total assets (the base amount)	100
Current liabilities	16
Long-term liabilities (10% interest)	43*
Common stock (\$5 par)	29
Retained earnings	12
Total liabilities and owners' equity (the base amount)	100

*rounded

P14-2. (continued)

Req. 2

- a. Average percentage markup on sales in 20B: $\$70,000 \div \$180,000 = 38.89\%$
- b. Average income tax rate in 20B: $\$4,000 \div \$14,000 = 28.57\%$
- c. Profit margin in 20B: $\$10,000 \div \$180,000 = 5.56\%$. This is not a good measure of profitability because it does not consider the investment required to earn the income.
- d. Investment in operational assets in 20B: $\$45,000 \div \$103,000 = 43.69\%$ of total assets.
- e. Debt/equity ratio for 20B: $\$61,000 \div \$42,000 = 1.45$
A ratio of 1.45 indicates that the creditors provided almost one and a half times the amount of resources that the owners provided. A ratio of over 1 to 1 usually is considered too high; a ratio of approximately 0.5 to 1 usually would be considered better. However, it is an improvement over 20A.
- f. Return on equity for 20B: $\$10,000 \div \$38,500^* = 26\%$
 $^*(\$42,000 + \$35,000) \div 2 = \$38,500$
- g. Return on assets: $[(\$10,000 + (\$4,500 \times .7143))^* \div \$101,000^{**}] = 13\%$
 $^*\$45,000 \times 10\% = \$4,500$ (interest expense)
 $\$4,000 \div \$14,000 = .2857$ (average tax rate)
 $1,000 - .2857 = .7143$ (after-tax rate)
 $^{**}(\$103,000 + \$99,000) \div 2 = \$101,000$.
- h. Financial leverage percentage: $26\% - 13\% = 13\%$. The financial leverage percentage was positive (i.e., in favor of the stockholders) by a significant amount.
- i. Book value per share of common stock: $\$42,000 \div 6,000$ shares = $\$7.00$.

P14-3. (Based on data given in Problem 14-1)

Name and Computation of the Ratio	Brief Explanation of the Ratio
Tests of profitability:	
(1) Return on equity: $\$10,000 \div \$38,500^* = 25.97\%$ $^*(\$42,000 + \$35,000) \div 2 = \$38,500$	Measures return earned for owners based upon their investment (including retained earnings) in the business.
(2) Return on assets: $(\$10,000 + \$3,214^*) \div \$101,000^\dagger = 13.08\%$ $^*(\$45,000 \times 10\% \times .7143 = \$3,214)$ The average tax rate was $\$4,000 \div \$14,000 = 28.57\%$ and $1,000 - .2857 = .7143$ $^\dagger(\$103,000 + \$99,000) \div 2 = \$101,000$	Measures the entity's performance in using total resources (total assets) available to it.
(3) Financial leverage percentage: $25.97\% - 13.08\% = 12.89\%$ positive	Advantage to be gained by investors when the interest rate (net of tax) is less than the rate earned on total investment.
(4) Quality of income: This ratio cannot be computed with the available data	A measure of whether reported earnings are supported by cash flows.
(5) Earnings per share $\$10,000 \div 6,000 = \1.67	Tends to measure return earned on each share of common stock outstanding.
(6) Fixed asset turnover $\$180,000 \div \$41,500^* = 4.34$ $^*\$45,000 + \$38,000 = \$41,500$ 2	An indication of how efficiently management is using fixed assets
(7) Profit margin $\$10,000 \div \$180,000 = .0556$ (or 5.56%)	Indicates percent of each sales dollar that was represented by income.

P14-3. (continued)

Name and Computation of the Ratio	Brief Explanation of the Ratio
Tests of liquidity:	
(1) Cash ratio $\$4,000 \div \$16,000 = .25$	The most stringent test of liquidity; it measures the amount of cash available to pay current liabilities.
(2) Current ratio $\$58,000 \div \$16,000 = 3.63$ to 1	Tends to measure the adequacy of working capital by relating total current assets to total current liabilities.
(3) Quick Ratio $\$18,000 \div \$16,000 = 1.13$ to 1	A severe test of liquidity by relating quick assets to total current liabilities.
(4) Receivable turnover $\frac{\$60,000 + \$18,000 + \$14,000}{2} = 3.75$ times	Tends to measure effectiveness of credit granting and collection of receivables.
Average collection period $365 \div 3.75 = 97.3$ days	Average number of days to collect an account receivable.
(5) Inventory turnover $\frac{\$110,000 + \$35,000 + \$40,000}{2} = 2.9$ times	Tends to indicate the velocity with which merchandise flows through the business.
Days' supply in inventory $365 \div 2.9 = 126$ days	Tends to indicate, as a days of supply figure, the velocity with which merchandise flows through the business.

P14-3. (continued)

Name and Computation of the Ratio	Brief Explanation of the Ratio
Tests of solvency and equity position:	
(1) Times interest earned $(\$10,000 + \$4,500 + \$4,000) \div \$4,500 = 4.11$	A measure of the amount of earnings available to cover interest expense.
(2) Cash coverage This ratio cannot be computed because cash flow data are not available	This ratio measures the amount of cash flow from operating activities available to cover interest expense.
(3) Debt/equity ratio $\$61,000 \div \$42,000 = 1.45$	Measures relationship between resources provided by owners versus resources provided by creditors.
(4) Owner's equity to total equities $\$42,000 \div \$103,000 = .41$	Measures the relative amount of total resources provided by owners through investment and retention of retained earnings.
(5) Creditors' equity to total equities $\$61,000 \div \$103,000 = .59$	Measures the relative amount of total resources provided by the creditors.
Market tests:	
(1) Price/earnings ratio $\$28.00 \div \$1.67 = 16.8$ to 1	Tends to measure earnings of the company that may benefit directly or indirectly the investor. It is the ratio of income to the current market price of the stock.
(2) Dividend yield $\$1.50 \div \$28.00 = 5\%$	Tends to measure cash return to the stockholder from dividends in relationship to the current market price of the stock.
Miscellaneous ratio:	
(1) Book value per share $\$42,000 \div 6,000$ shares = $\$7.00$	Measures the book value of owners' equity in terms of each share outstanding.

P14-4.

Sears is the stronger company and probably the better investment. Sears has a higher gross profit margin, which means that they make more gross profit on each dollar of sales than J.C. Penney. This is very significant since the two companies are in the same business, and operate in the same way. The current ratio of Sears is higher than the current ratio of J.C. Penney, but their quick ratio is lower. This says that Sears has more inventory than J.C. Penney and this may be inefficient. If investors want more information about liquidity, they can refer to the Statements of Cash Flows. The Sears capital structure includes more debt which gives the company a higher degree of financial leverage. Their investors receive a higher return on equity but there is additional risk. J.C. Penney is paying out more dividends than they earned. Sears' dividend payout is lower, suggesting they are re-investing earnings in the company.

P14-5.

Req. 1

Name and Computation of the 20B Ratio	Brief Explanation of the Ratio
Tests of profitability:	
(1) Return on equity: $\frac{\$23,000 + \$109,000^*}{(\$116,000 + \$102,000) + 2} = 21.10\%$	Measures return earned for owners based upon their investment (including retained earnings) in the business.
(2) Return on assets: $\frac{(\$23,000 + \$4,900^*) + \$188,000^\dagger}{\$204,000 + \$172,000} = 14.84\%$ *Bonds: $\$70,000 \times 10\% \times .70 = \$4,900$ (The average tax rate was: $\frac{\$10,000 + \$33,000}{\$204,000 + \$172,000} = 30\%$) $\dagger(\$204,000 + \$172,000) + 2 = \$188,000$	Measures the entity's performance in using total resources (total assets) available to it.
(3) Financial leverage percentage: $21.10\% - 14.84\% = 6.26\%$ positive	The advantage to be gained by investors when the interest rate (net of tax) is less than the return on assets.
(4) Earnings per share $\frac{\$23,000}{20,000 \text{ shares}} = \1.15	Tends to measure return earned on each share of common stock outstanding.
(5) Profit margin $\frac{\$23,000}{\$450,000} = .05$	Indicates percent of each sales dollar that was represented by income.
(6) Fixed asset turnover $\frac{\$450,000}{[\frac{(\$130,000 + \$120,000)}{2}]} = 3.6$	An indication of how efficiently management is using fixed assets.

P14-5. (continued)

Req. 1 (continued)

Name and Computation of the 20B Ratio	Brief Explanation of the Ratio
Tests of liquidity:	
(1) Cash ratio $\frac{\$6,800}{\$18,000} = .38$	The most stringent test of liquidity; it measures the amount of cash available to pay current liabilities
(2) Current ratio $\frac{\$74,000}{\$18,000} = 4.11 \text{ to } 1$	Tends to measure the adequacy of working capital by relating total current assets to total current liabilities.
(3) Quick ratio $\frac{\$48,800}{\$18,000} = 2.71 \text{ to } 1$	A severe test of liquidity by relating quick assets to total current liabilities.
(4) Receivable turnover $\frac{\$180,000 + [\$42,000 + \$28,000]}{2} = 5.14 \text{ times}$ Average collection period $365 \div 5.14 = 71.01 \text{ days}$	Tends to measure effectiveness of credit granting and collection of receivables. Average number of days to collect an account receivable.
(5) Inventory turnover $\frac{\$250,000}{[\frac{\$25,000 + \$20,000}{2}]} = 11.11 \text{ times}$ Average days' supply $365 \div 11.11 \text{ days} = 32.85 \text{ days}$	Tends to indicate the velocity with which merchandise flows through the business. Tends to indicate, as a days of supply figure, the velocity with which merchandise flows through the business.

P14-5. (continued)

Req. 1 (continued)

Name and Computation of the 20B Ratio	Brief Explanation of the Ratio
Tests of solvency and equity position:	
(1) Times interest earned $\frac{(\$23,000 + \$10,000 + \$7,000) + \$7,000}{5.7}$	A measure of the amount of earnings available to cover interest expense.
(2) Debt/equity ratio $\frac{\$88,000}{\$116,000} = .76$	Measures relationship between resources provided by owners versus resources provided by creditors.
(3) Owners' equity to total equities $\frac{\$116,000 + \$204,000}{\$204,000} = .57$	Measures the relative amount of total resources provided by owners through investment and retention of retained earnings
(4) Creditors' equity to total equities $\frac{\$88,000 + \$204,000}{\$204,000} = .43$	Measures the relative amount of total resources provided by creditors.
Market tests:	
(1) Price/earnings ratio $\frac{\$18}{\$1.15} = 15.65 \text{ to } 1$	Tends to measure earnings of the company that may benefit the investor directly or indirectly. It is the ratio of current market price of the stock to the EPS.
(2) Dividend yield ratio $\frac{\$2.00}{\$18} = 11.11\%$	Tends to measure cash return to the stockholder from dividends in relationship to the current market price of the stock.

P14-5. (continued)

Req. 2

- (a) The financial leverage percentage indicates that a 6.26% advantage (on stockholders' equity) was earned for the stockholders because the company earned 21.10% on total (resources) used and paid 7.0% interest on debt (after tax).
- (b) The profit margin was 5% of net sales. This means that the business earned \$.05 profit on each sales dollar. Whether it is "good" can be determined reasonably by comparing it with standards such as (a) prior years, (b) industry averages, (c) projections (planned), and (d) published averages.
- (c) The current ratio of 4.11 to 1 is more than the quick ratio of 2.71 to 1 because the latter ratio is a much more severe test of liquidity (it omits inventory and prepaid expenses). Each of these ratios probably would be "good" when compared with some standard (such as those listed in (b) above). However, there appears to be a severe liquidity problem that these two ratios do not divulge; that is, the extremely low amount of cash (\$6,800) which is only 9.19% of total current assets (\$6,800 + \$74,000).
- (d) There appears to be a credit and collection deficiency. The receivable collection period of 71.01 days compared with the 30-day credit terms indicates more uncollected accounts than should be expected.

P14-6.

Commerce Bank	12
Cinergy Gas and Electric	10
Compaq Computers	82
Home Depot	65
Motorola	108
Starbucks	55
America Online	143
Amazon.com	N / A
Pepsi	26

P14-7.

Req. 1

Ratio	Armstrong Company	Blair Company
<i>Tests of profitability:</i>		
1. Return on equity	$\$45,000 \div \$240,000 = 19\%$	$\$90,000 \div \$680,000 = 13\%$
2. Return on assets	$[\$45,000 + (\$60,000 \times 10\% \times .70)] \div \$400,000 = 12\%$	$[\$90,000 + (\$70,000 \times 10\% \times .70)] \div \$800,000 = 12\%$
3. Financial leverage percentage	$19\% - 12\% = 7\%$	$13\% - 12\% = 1\%$
4. Earnings per share	$\$45,000 \div 15,000 \text{ sh.} = \3.00	$\$90,000 \div 50,000 \text{ sh.} = \1.80
5. Profit margin	$\$45,000 \div \$450,000 = 10\%$	$\$90,000 \div \$810,000 = 11\%$
6. Fixed asset turnover	$\$450,000 \div \$140,000 = 3.21$	$\$810,000 \div \$400,000 = 2.03$
<i>Tests of liquidity:</i>		
7. Cash ratio	$\$35,000 \div \$100,000 = .35$	$\$22,000 \div \$50,000 = .44$
8. Current ratio	$\$175,000 \div \$100,000 = 1.75$	$\$92,000 \div \$50,000 = 1.84$
9. Quick ratio	$\$75,000 \div \$100,000 = .75$	$\$52,000 \div \$50,000 = 1.04$
10. Receivable turnover	$\$150,000 \div [(\$20,000 + \$40,000) \div 2] = 5.00$	$\$270,000 \div [(\$38,000 + \$30,000) \div 2] = 7.94$
11. Inventory turnover	$\$245,000 \div [(\$92,000 + \$100,000) \div 2] = 2.55$	$\$405,000 \div [(\$45,000 + \$40,000) \div 2] = 9.53$
<i>Solvency and equity position:</i>		
12. Debt/equity ratio	$\$160,000 \div \$240,000 = .67$	$\$120,000 \div \$680,000 = .18$
13. Owners' equity to total equities	$\$240,000 \div \$400,000 = .60$	$\$680,000 \div \$800,000 = .85$
14. Creditors' equity to total equities	$\$160,000 \div \$400,000 = .40$	$\$120,000 \div \$800,000 = .15$
<i>Market tests:</i>		
15. Price/earnings ratio	$\$18 \div \$3.00 = 6.0$	$\$15 \div \$1.80 = 8.33$
16. Dividend yield ratio	$\$18 \div (\$36,000 \div 15,000 \text{ shares}) \div 18 = 13.3\%$	$\$15 \div (\$150,000 \div 50,000 \text{ shares}) \div 15 = 20\%$
<i>Miscellaneous ratio:</i>		
17. Book value per share	$\$240,000 \div 15,000 \text{ sh.} = \16.00	$\$680,000 \div 50,000 \text{ sh.} = \13.60

Req. 2

Recommended choice: Armstrong Company

Basis for recommendation:

- The reported information for Armstrong Company is audited; therefore, it has more credibility.
- Profitability in the future has a higher probability for Armstrong Company because the return on equity is 19% (compared with 13%) although return on assets is the same (12%). The resulting leverage advantage of 7% (compared with 1%) is because of the use of debt. Armstrong Company obtains 40% of its total resources by borrowing compared with 15% by Blair Company (see the ratio: creditors' equity to total equities). Both companies can borrow at 7% net of tax while earning a 12% rate on assets (debt plus

P14-7. (continued)

Req. 2 (continued)

- owners' equity). Armstrong Company is taking better advantage of this leverage. The advantageous position of Armstrong Company also is reflected in EPS. Armstrong Company has a profit margin of 10% (compared with the better 11% profit margin of Blair Company). Armstrong Company earned net income of \$45,000 while using total investment of only \$400,000. Blair Company earned net income of \$90,000 (twice as much) while using total investment \$800,000 (also twice as much), but Armstrong Company obtained a much higher percent of its total investment through debt at only 7% (thus, a much better leverage factor, and a much higher return on owners' equity: 19% compared with 13%).
- Blair Company has a better liquidity position if measured in terms of the current ratio (1.84 compared with 1.75) and its quick ratio is better (1.04 compared with 0.75). Blair Company is in a better position in respect to credit and collections (turnover of 7.94 compared with 5.0). However, Armstrong Company reflects a significantly lower (unfavorable) inventory turnover (2.55 compared with 9.53). This difference, in view of sales revenue, suggests overstocking by Armstrong.
 - The market tests and the book value ratios do not favor either company. However, Blair Company declared and paid a dividend in excess of 20B profits. This pattern cannot be continued. Blair Company is low on cash (\$22,000). Also, the high amount of "other" assets (\$308,000, or 39%) raises the question of their contribution to earnings.

Constraint—The above analysis is based on only one year, 20B, which poses a problem of evaluation. Selected detailed data for the prior year should be analyzed in a similar manner. A five- to ten-year summary of selected values also would be quite useful. Other particularly important information should be evaluated, such as the characteristics of the company, the industry, economic conditions, and the quality of the management.

P14-8.

Analysis

The case states that both companies are exactly alike except for the impact of the alternative methods to cost inventory. Use of LIFO (compared to FIFO), during a period of rising prices, causes (1) lower inventory amounts on the balance sheet, (2) lower net income on the income statement, and (3) a lower retained earnings balance on the balance sheet. Use of LIFO for federal income tax determination reduces both tax expense and tax liability. Inasmuch as both companies have paid their tax liabilities, the company using LIFO (Company B) will report a higher cash balance.

- Current ratio**—Company A will have a higher ratio because the inventory amount is higher under FIFO. The cash balance for Company A is less than the balance for Company B but the difference in cash balances is less than the difference in inventory amounts (because the cash difference is the inventory difference multiplied by the income tax rate).
- Quick ratio**—Company B will have a higher ratio because of the higher cash balance. The difference in inventory amounts does not affect the quick ratio because inventory is excluded from quick assets.
- Debt/equity ratio**—Company B will have a higher ratio because of reporting a lower amount of equity. LIFO results in lower net income which means that retained earnings (part of owners' equity) also will be lower.
- Return on equity**—The analyst cannot be certain which company will report a higher ratio. The numerator of the ratio reflects differences for the current year and the denominator reflects differences for the current year plus all previous years. Without a quantification of the cumulative difference from previous years, it is impossible to be certain which company will have the higher ratio.
- EPS**—Company A will have a higher ratio because of reporting higher net income.

P14-9.

Return on equity:

$$\frac{\$31,185,000}{(\$242,503,000 + \$242,712,000) \div 2} = 12.9\%$$

Return on assets:

$$\frac{\$31,185,000 + (\$7,734,000 \times 66\%)}{(\$455,919,000 + \$433,472,000) \div 2} = 8.2\%$$

*Assumed tax rate of 34%

Financial leverage percentage:

$$RO_E - RO_A = 12.9\% - 8.2\% = 4.7\% \text{ (positive)}$$

Earnings per share:

$$\frac{\$31,185,000}{(29,904,000 + 30,940,000) \div 2} = \$1.03$$

Quality of Income:

Cannot do without the statement of cash flows.

Profit margin:

$$\frac{\$31,185,000}{\$1,371,375,000} = 2.3\%$$

Fixed asset turnover:

$$\frac{\$1,371,375,000}{(\$160,586,000 + \$133,409,000) \div 2} = 9.3$$

Cash ratio:

$$\frac{\$6,641,000}{\$205,283,000} = 3.2\%$$

Current ratio:

$$\frac{\$294,303,000}{\$205,283,000} = 1.43$$

Quick ratio:

$$\frac{\$27,724,000}{\$205,283,000} = 0.14$$

P14-9. (continued)

Receivable turnover:

$$\frac{\$1,371,375,000^*}{(\$21,083,000 + \$15,443,000) \div 2} = 75.09$$

* When amount of credit sales is not known, total sales may be used as a rough approximation.

Inventory turnover:

$$\frac{\$754,661,000}{(\$219,686,000 + \$241,154,000) \div 2} = 3.28$$

Times interest earned:

$$\frac{\$31,185,000 + \$7,734,000 + \$18,315,000}{\$7,734,000} = 7.4$$

Cash coverage:

Cannot do without statement of cash flows.

Debt/Equity:

$$\frac{\$213,416,000}{\$242,503,000} = 0.88$$

Price earnings:

Cannot do because do not know current market price per share.

Dividend yield:

0% (No dividends were paid)

Book value per share:

$$\frac{\$242,503,000}{29,904,000 \text{ shares}} = \$8.11$$

P14-10.

Students should include the following points in their papers:

1. Company A has a high level of liquidity as shown by the current ratio but the low quick ratio indicates that much of the liquidity is tied up in inventory.
2. The low inventory turnover is another indication of an excessive amount of inventory. Analysts would be concerned about whether the inventory could be quickly converted to cash.
3. In addition to liquidity concerns, Company A shows a high debt/equity ratio.
4. Company A does not seem to have good growth opportunities. The market has valued Company A at a low price/earnings multiple.

P14-11.

Students should include the following points in their papers:

1. Company A is either extremely efficient at inventory management or it does not carry enough inventory to support its operations. The low current ratio (in combination with an average quick ratio) and the high inventory turnover give an indication of low levels of inventory.
2. Company A appears to have the ability to borrow additional funds given its low debt/equity ratio.
3. Company A seems to pay low dividends and has a high price/earnings multiple. These ratios would suggest good growth opportunities.

ALTERNATE PROBLEMS

AP14-1.

Req. 1

a. Tests of profitability*:

- (1) Return on assets: $[\$12,600 + (\$4,000 \times .70)] \div \$199,750 = 7.7\%$.
- (2) Return on equity: $\$12,600 \div \$120,500 = 10.5\%$.
- (3) Financial leverage percentage: $10.5\% - 7.7\% = 2.8\%$ positive (in favor of stockholders).
- (4) Earnings per share: $\$12,600 \div 9,000 \text{ shares} = \1.40 .
- (5) Profit margin: $\$12,600 \div \$110,000 = 11.45\%$.

*These ratios usually are computed on income before extraordinary items. After-tax ratio: $1.00 - .30 = .70$. Investment amounts are based on the average of the 20A and 20B balances.

b. Tests of liquidity:

- (6) Current ratio: $\$111,500 \div \$43,000 = 2.59$ to 1.00.
- (7) Quick ratio: $\$86,500 \div \$43,000 = 2.01$ to 1.00.
- (8) Receivable turnover: $\$55,000 \div \frac{\$32,000 + \$37,000}{2} = 1.59$ times
Average days to collect: $365 \div 1.59 = 230$ days.
- (9) Inventory turnover: $\$52,000 \div \frac{\$38,000 + \$25,000}{2} = 1.65$ times
Days' supply in inventory: $365 \div 1.65 = 221$ days.

c. Tests of solvency:

- (10) Debt/equity ratio: $\$83,000 \div \$123,500 = .67$.
- (11) Owners' equity to total equities: $\$123,500 \div \$206,500 = .60$.
- (12) Creditors' equity to total equities: $\$83,000 \div \$206,500 = .40$.

d. Market tests:

- (13) Price/earnings ratio: $\$23 \div \$1.40 = 16.4$ times.
- (14) Dividend yield: $$.75 \div \$23 = 3\%$.

AP14-1. (continued)

Req. 2

- a. Sales revenue $(\$110,000 - \$99,000) \div \$99,000 = 11.11\%$
Income before extraordinary items $(\$12,600 - \$9,800) \div \$9,800 = 28.57\%$
Net Income $(\$11,200 - \$11,900) \div \$11,900 = (5.88\%)$
Cash $(\$49,500 - \$18,000) \div \$18,000 = 175\%$
Inventory $(\$25,000 - \$38,000) \div \$38,000 = (34.21\%)$
Debt $(\$83,000 - \$75,500) \div \$75,500 = 9.93\%$

- b. Pretax interest rate on the long-term note: $\$4,000 \div \$40,000 = 10\%$.

Req. 3

Potential problems are:

1. Average collection period of 230 days—long compared with the 30-day credit period.
2. Inventory turnover 1.65 (i.e., 221 days)—long shelf life for a retail business.
3. Increase in debt, nearly 10% from 20A to 20B, is material in amount, investigate the cause.

AP14-2.

Req. 1

Ratio	20A	20B	20C	20D
a. Profit margin %	(18%)	8%	15%	11%
b. Gross margin ratio	36%	39%	31%	38%
c. Expenses as a % of sales excluding cost of goods sold	55%	32%	16%	27%
d. Inventory turnover	4.67	3.08	3.24	2.48
e. Days' supply in inventory	78	119	113	147
f. Receivable turnover	6.0	4.3	4.0	3.6
g. Average days to collect	61	85	91	101

Computations:

- a. Profit margin: 20A, $(\$8) \div \$44 = (18\%)$; 20B, $\$5 \div \$66 = 8\%$; 20C, $\$12 \div \$80 = 15\%$; 20D, $\$11 \div \$100 = 11\%$.
- b. Gross margin ratio: 20A, $(\$44 - \$28) \div \$44 = .36$; 20B, $(\$66 - \$40) \div 66 = .39$; 20C, $(\$80 - \$55) \div \$80 = .31$; 20D, $(\$100 - \$62) \div \$100 = .38$.

AP14-2. (continued)

Req. 1 (continued)

- c. Expense percent of sales revenue: 20A, $(\$44 - \$28 + \$8) \div \$44 = 55\%$; 20B, $(\$66 - \$40 - \$5) \div \$66 = 32\%$; 20C, $(\$80 - \$55 - \$12) \div \$80 = 16\%$; 20D, $(\$100 - \$62 - \$11) \div \$100 = 27\%$.
- d. Inventory turnover: 20A, $\$28 \div [(\$0 + \$12) \div 2] = 4.67$; 20B, $\$40 \div [(\$12 + \$14) \div 2] = 3.08$; 20C, $\$55 \div [(\$14 + \$20) \div 2] = 3.24$; 20D, $\$62 \div [(\$20 + \$30) \div 2] = 2.48$.
- e. Days' supply in inventory: 20A, $365 \div 4.67 = 78$; 20B, $365 \div 3.08 = 119$; 20C, $365 \div 3.24 = 113$; 20D, $365 \div 2.48 = 147$.
- f. Receivable turnover: 20A, $\$33 \div [(\$0 + \$11) \div 2] = 6.0$; 20B, $\$49.5 \div [(\$11 + \$12) \div 2] = 4.3$; 20C, $\$60 \div [(\$12 + \$18) \div 2] = 4.0$; 20D, $\$75 \div [(\$18 + \$24) \div 2] = 3.6$.
- g. Average days to collect: 20A, $365 \div 6.0 = 61$; 20B, $365 \div 4.3 = 85$; 20C, $365 \div 4.0 = 91$; 20D, $365 \div 3.6 = 101$.

Req. 2

Sales revenue increased steadily each of the four years, which is favorable. During the first three years profit margin (income as a percent of sales revenue) also increased. However, the profit margin decreased in the last year. The gross margin rate (gross margin as a percent of sales revenue) changed each year, but increased the final year. The conclusion is that there had been a change in the average rate of markup each year, but expenses as a percent of sales revenue decreased each year with the exception of the last year. Notice how both gross margin and the level of other expenses affect profit margin.

Recommendation: The two variables, (1) markup and (2) expenses, highlight the need for careful scrutiny of the management with a view to reversing the downward trend of income.

AP14-2. (continued)

Req. 3

The inventory turnover ratio (and days' supply) reflect instability. This effect is even more pronounced when the turnover ratio is compared with the gross margin ratio and the profit margin ratio. These comparisons strongly suggest that inventory control (i.e., the amount of goods to stock) is seriously lacking. Recall that the higher the inventory turnover (and the lower the days' supply) the higher the profit margin.

The receivable turnover ratio (and the average days to collect) for all years is in excess of what would be expected with credit terms of net, 30 days. These ratios vary significantly, which suggests considerable inefficiencies in credit and collections.

Recommendation: That the management carefully assess the inventory situation and the credit and collection activities with a view to developing policies which will lead to the (a) determination of optimum inventory levels (to increase the inventory turnover ratio), and (b) optimum efficiency in the credit and collections activities (to increase the receivable turnover ratio and reduce the average days to collect).

AP14-3.

Coca-Cola is the stronger company and probably is the better investment. The biggest difference between the two companies is the P/E ratio and the gross profit margin. Coca-Cola has a much larger P/E ratio, meaning that the market sees Coca-Cola as having more potential for growth than Pepsi. Also, the companies have similar business, but Coca-Cola's gross profit margin is significantly higher than Pepsi's. Coca-Cola earns more profit per dollar of sales than Pepsi does. All of the other ratios are very similar for the two companies, with the exception of the dividend payout ratio.

AP14-4.

Req. 1

Ratio	Rand Company	Tand Company
<i>Tests of profitability:</i>		
1. Return on equity	$\$80,000 \div \$570,000 = 14\%$	$\$35,000 \div \$222,000 = 15.8\%$
2. Return on assets	$[\$80,000 + (\$190,000 \times 12\% \times .70)] \div \$880,000 = 10.9\%$	$[\$35,000 + (\$55,000 \times 12\% \times .70)] \div \$292,000 = 13.6\%$
3. Financial leverage percentage	$14.0\% - 10.9\% = 3.1\%$	$15.8\% - 13.6\% = 2.2\%$
4. Earnings per share	$\$80,000 \div 24,000 \text{ shares} = \3.33	$\$35,000 \div 10,500 \text{ shares} = \3.33
5. Profit margin	$\$80,000 \div \$800,000 = 10\%$	$\$35,000 \div \$280,000 = 12.5\%$
6. Fixed asset turnover	$\$800,000 \div \$550,000 = 1.45$	$\$280,000 \div \$160,000 = 1.75$
<i>Tests of liquidity:</i>		
7. Cash ratio	$\$25,000 \div \$120,000 = .21$	$\$45,000 \div \$15,000 = 3$
8. Current ratio	$\$190,000 \div \$120,000 = 1.58$	$\$75,000 \div \$15,000 = 5$
9. Quick ratio	$\$80,000 \div \$120,000 = .67$	$\$50,000 \div \$15,000 = 3.33$
10. Receivable turnover	$\$400,000 \div [(\$47,000 + \$55,000) \div 2] = 7.84$	$\$70,000 \div [(\$11,000 + \$5,000) \div 2] = 8.75$
11. Inventory turnover	$\$480,000 \div [(\$95,000 + \$110,000) \div 2] = 4.68$	$\$150,000 \div [(\$38,000 + \$25,000) \div 2] = 4.76$
<i>Solvency and equity position:</i>		
12. Debt/equity ratio	$\$310,000 \div \$570,000 = .54$	$\$70,000 \div \$222,000 = .32$
13. Owners' equity to total equities	$\$570,000 \div \$880,000 = .65$	$\$222,000 \div \$292,000 = .76$
14. Creditors' equity to total equities	$\$310,000 \div \$880,000 = .35$	$\$70,000 \div \$292,000 = .24$
<i>Market tests:</i>		
15. Price/earnings ratio	$\$14.00 \div \$3.33 = 4.20$	$\$11.00 \div \$3.33 = 3.30$
16. Dividend yield ratio	$(\$20,000 \div 24,000 \text{ shares}) \div \$14.00 = 6.0\%$	$(\$9,000 \div 10,500 \text{ shares}) \div \$11.00 = 7.8\%$
<i>Miscellaneous ratio:</i>		
17. Book value per share	$\$570,000 \div 24,000 \text{ shares} = \23.75	$\$222,000 \div 10,500 \text{ shares} = \21.14

AP14-4. (continued)

Req. 2

Preferable loan: Tand Company
Basis for recommendation:

1. Each set of financial statements is audited and each received an unqualified opinion; therefore, there is no preference on statement.
2. Profitability—Tand Company had a higher profit margin than Rand Company (12.5% compared with 10%). The earnings per share amounts were the same. Tand Company earned a rate of return on equity of 15.8% compared with 14% for Rand Company. Similarly, Tand Company had a rate of return on assets that was higher than Rand Company. In contrast, Tand Company had lower financial leverage. On balance, my conclusion is that Tand Company has a somewhat better future profitability potential than does Rand Company.
3. Liquidity—Tand Company has higher liquidity than Rand Company as evidenced by the current ratio (5 compared with 1.58) and the quick ratio (3.33 compared with .67). Thus, on the basis of liquidity, a short-term loan to Tand Company would be somewhat preferable.
4. Solvency and equity position—Tand Company clearly is in the better position on this factor. Tand Company financed its operations by obtaining 76% of its total assets from shareholders and 24% from debt. Stockholders' equity is much less risky because dividends do not have to be paid each period (interest does) and there is no maturity date for shares (which debt has). Therefore, on the basis of this analysis, a loan of \$30,000 to Tand Company clearly is preferable to a loan of \$75,000 to Rand Company.
5. The price/earnings, and book value per share ratios provide little evidence in favor of either company. The dividend yield ratio shows that Tand Company provides the investor with higher current income.
6. Constraint—The above analysis is based on only one year, 20B (which is relevant because it is the most recent) and the limited data given. However, selected detailed data for the prior year should be analyzed in a similar manner. A five- to ten-year summary of selected values also would be quite useful. Other particularly important data should be evaluated such as security for the loan (assets to mortgage), the management, the industry, economic conditions, cash flow projections, and reputation of the company.

AP14-5.

Return on equity:

$$\frac{\$135,000,000}{(\$702,800,000 + \$836,400,000) \div 2} = 17.5\%$$

Return on assets:

$$\frac{\$135,000,000 + (\$7,100,000 \times 60\%)}{(\$1,017,900,000 + \$1,073,000,000) \div 2} = 13.3\%$$

In this problem, we assume an average tax rate of 34%.

Financial leverage percentage:

$$RO_E - RO_A = 17.5\% - 13.3\% = 4.2\% \text{ (positive)}$$

Earnings per share:

$$\frac{\$135,000,000}{(32,453,406 + 37,332,068) \div 2} = \$3.86$$

Quality of Income:

Cannot do without the statement of cash flows.

Profit margin:

$$\frac{\$135,000,000}{\$2,615,500,000} = 5.2\%$$

Fixed asset turnover:

$$\frac{\$2,615,500,000}{(\$492,800,000 + \$486,700,000) \div 2} = 5.34$$

Cash ratio:

$$\frac{\$123,500,000}{\$194,900,000} = 0.63$$

Current ratio:

$$\frac{\$495,800,000}{\$194,900,000} = 2.54$$

Quick ratio:

$$\frac{\$123,500,000}{\$194,900,000} = 0.63$$

AP14-5. (continued)

Receivable turnover:

Cannot do because no accounts receivable are given.

Inventory turnover:

$$\frac{\$1,798,900,000}{(\$342,100,000 + \$324,600,000) \div 2} = 5.4$$

Times interest earned:

$$\frac{\$135,000,000 + 7,100,000 + \$89,500,000}{\$7,100,000} = 32.6$$

Note: The only information given is interest expense net of interest income.

Cash coverage:

Cannot do without statement of cash flows.

Debt/Equity:

$$\frac{\$315,100,000}{\$702,800,000} = 0.45$$

Price earnings:

Cannot do because do not know current market price per share.

Dividend yield:

0% (No dividends were paid)

Book value per share:

$$\frac{\$702,800,000}{32,453,406 \text{ shares}} = \$21.66$$

AP14-6.

Students should include the following points in their papers:

1. Company A shows a high EPS but a low ROA. There are a number of possible explanations for this situation. The high debt/equity ratio suggests that Company A is highly leveraged and is able to generate high earnings for stockholders by using a large amount of debt financing.
2. The low level of liquidity for Company A is a concern given its high debt/equity ratio.
3. Despite a high EPS, the company has a low price/earnings multiple. This is often an indication of limited growth opportunities or concern in the market.
4. The dividend yield for Company A is high. The company may be paying significant dividends or its stock price may be currently depressed.

AP14-7.

Students should include the following points in their papers:

1. Company A appears to be very profitable based on both ROA and profit margin. The use of leverage has enhanced the ROA.
2. Company A's solvency and liquidity are potential areas of concern.
3. The price/earnings multiple for Company A suggests a profitable company with good growth prospects.

CASES AND PROJECTS

FINANCIAL REPORTING AND ANALYSIS CASES

CP14-1.

American Eagle

Return on equity:

$$\frac{\$54,118}{(\$151,197 + \$90,808) \div 2 = \$121,003} = 44.7\%$$

Return on assets:

$$\frac{\$54,118}{(\$210,948 + \$144,795) \div 2 = \$177,872} = 30.4\%$$

Financial leverage percentage:

$$RO_E - RO_A = 44.7\% - 30.4\% = 14.3\% \text{ (positive)}$$

Earnings per share:

As reported \$1.20

Quality of Income:

$$\frac{\$59,821}{\$54,118} = \$1.11$$

Profit margin:

$$\frac{\$54,118}{\$587,600} = 0.09$$

Fixed asset turnover:

$$\frac{\$587,600}{(\$53,370 + \$38,547) \div 2 = \$45,959} = 12.78$$

Cash ratio:

$$\frac{\$71,940}{\$59,751} = 1.20$$

Current ratio:

$$\frac{\$154,504}{\$59,751} = 2.59$$

CP14-1. (continued)

Quick ratio:

$$\frac{\$93,860}{\$59,751} = 1.57$$

Receivable turnover:

Cannot do because no information about credit sales.

Inventory turnover:

$$\frac{\$353,089}{(\$49,688 + \$36,278) \div 2 = \$42,983} = 8.2$$

Times interest earned:

Not applicable

Cash coverage:

Not applicable

Debt/Equity

$$\frac{\$59,751}{\$151,197} = .40$$

Price earnings: (using high price for 1999)

$$\frac{\$34.19}{\$1.20} = 28.5$$

Dividend yield:

0% (No dividends were paid)

Book value per share:

$$\frac{\$151,197}{46,110 \text{ shares}} = \$3.28$$

CP14-2.

Urban Outfitters**Return on equity:**

$$\frac{\$15,760}{(\$105,294 + \$90,658) \div 2 = \$97,976} = 16.1\%$$

Return on assets:

$$\frac{\$15,760}{(\$133,363 + \$107,424) \div 2 = \$120,394} = 13.1\%$$

Note: Most students will not adjust for interest expense, even though \$6 (thousand) was paid in cash. We show the typical answers because the difference is immaterial in this case.

Financial leverage percentage:

$$ROE - ROA = 16.1\% - 13.1\% = 3.0\% \text{ (positive)}$$

Earnings per share:

As reported \$0.89

Quality of Income:

$$\frac{\$27,244}{\$15,760} = 1.73$$

Profit margin:

$$\frac{\$15,760}{\$208,969} = 7.5\%$$

Fixed asset turnover:

$$\frac{\$208,969}{(\$43,066 + \$26,893) \div 2 = \$34,980} = 5.97$$

Cash ratio:

$$\frac{\$25,165}{\$24,028} = 1.05$$

Current ratio:

$$\frac{\$71,555}{\$24,028} = 2.98$$

CP14-2. (continued)

Quick ratio:

$$\frac{\$43,021}{\$24,028} = 1.79$$

Receivable turnover:

Cannot do because no information about credit sales.

Inventory turnover:

$$\frac{\$129,625}{(\$21,881 + \$17,128) \div 2 = \$19,505} = 6.65$$

Times interest earned:

Not applicable

Cash coverage:

Not applicable

Debt/Equity:

$$\frac{\$28,069}{\$105,294} = .27$$

Price earnings: (using high price for 1999)

$$\frac{\$18.00}{\$0.89} = 20.2$$

Dividend yield:

0% (No dividends were paid)

Book value per share:

$$\frac{\$105,294}{17,640 \text{ shares}} = \$5.97$$

CP14-3.

Case 1

$$ROE = \frac{\text{Net Income}}{\text{Average Owners' Equity}}$$

$$10\% = \frac{\$200,000}{\text{Average Owners' Equity}}$$

Average Equity = \$2,000,000

Case 2

$$\text{Asset Turnover} = \frac{\text{Net Sales}}{\text{Average Total Assets}}$$

$$8 = \frac{\$8,000,000}{\text{Average Total Assets}}$$

Average Total Assets = \$1,000,000

Case 3

$$\text{Asset Turnover} = \frac{\text{Net Sales}}{\text{Average Total Assets}}$$

$$5 = \frac{\text{Net Sales}}{\$1,000,000}$$

Net Sales = \$5,000,000

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Net Sales}}$$

$$10\% = \frac{\text{Net Income}}{\$5,000,000}$$

Net Income = \$500,000

$$ROE = \frac{\text{Net Income}}{\text{Average Owners' Equity}}$$

$$15\% = \frac{\$500,000}{\text{Average Owners' Equity}}$$

$$\text{Average Owners' Equity} = \$3,333,333$$

CP14-3. (continued)

Case 4

$$\text{Asset Turnover} = \frac{\text{Net Sales}}{\text{Average Total Assets}}$$

$$5 = \frac{\$1,000,000}{\text{Average Total Assets}}$$

$$\text{Average Assets} = \$200,000$$

CP14-4.

The two areas where we would expect the largest difference are profit margin and asset turnover. We would expect the "high quality" company to have higher margins. The "low cost" company could produce high returns to the owners.

CP14-5.

Company A is Nordstrom and Company B is J.C. Penney. The major impact of the different strategies can be seen in the margin. Nordstrom is able to maintain much higher profit margins with its quality strategy.

CP14-6.

We use this project to put ratio analysis into a broader context. We find that some students focus on the computation of ratios and the analysis of small differences between ratios for comparable companies. We try to help students see ratio analysis as one of many tools and financial information as only a subset of the relevant information that should be used when making investment decisions.

CRITICAL THINKING CASES

CP14-7.

Req. 1

The ratios that are likely to be affected by alternative depreciation methods are:

- | | |
|-----------------------------------|---|
| 1. Return on equity. | 7. Owners' equity to total equities. |
| 2. Return on assets. | 8. Creditors' equity to total equities. |
| 3. Financial leverage percentage. | 9. Price/earnings ratio (P/E ratio). |
| 4. Earnings per share (EPS). | 10. Dividend payout ratio. |
| 5. Profit margin. | 11. Book value per common share. |
| 6. Debt-equity ratio. | 12. Fixed asset turnover |

Alternative depreciation methods only affect reported noncurrent assets, net income, and owners' equity. Therefore, ratios that do not include these amounts will not be affected.

Req. 2

It is impossible to determine which company will report the higher ratios without knowledge of the average life of depreciable assets. During the early life of the assets, sum-of-years'-digits depreciation is higher than straight line, but in the later years of the life, sum-of-years'-digits depreciation is lower than straight line.

CP14-8.

TRANSACTION	CURRENT RATIO	QUICK RATIO	WORKING CAPITAL
a.	DECREASE	DECREASE	NO CHANGE
b.	INCREASE	INCREASE	INCREASE
c.	INCREASE	INCREASE	NO CHANGE
d.	NO CHANGE	NO CHANGE	NO CHANGE
e.	NO CHANGE	NO CHANGE	NO CHANGE

CP14-9.

Although the amount of working capital was unchanged, the current ratio for Almost Short increased as the result of paying \$420,000 to the trade creditors:

	<i>Before</i>		<i>After</i>
$\frac{\text{Current assets}}{\text{Current liabilities}}$	$\frac{\$1,900,000}{\$1,075,000} = 1.77$	$=$	$\frac{\$1,480,000}{\$655,000} = 2.26$

Working capital	\$ 825,000	\$825,000
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The current ratio has increased to an amount which is considered to be acceptable by First Federal Bank, but it appears that the increase is mere "window dressing." Total working capital was unaffected by the transaction. In the process of improving the current ratio, Almost Short created a potential cash crisis. The cash balance was reduced to \$10,000 (\$430,000 - \$420,000) compared with current liabilities of \$655,000. First Federal should deny the second loan request.

A more fundamental point concerns the validity of the 2:1 criterion imposed by First Federal. The case illustrates the ease with which some ratios can be manipulated. Usually a rigid cut-off point is not advisable for ratio analysis.

CP14-10.

The response to this question will depend on the company selected by the student. One learning objective of this project is to recognize that different investors have different risk and return preferences. In this situation, the investor would have a low tolerance for risk and would have less interest in growth potential.

CP14-11.

The response to this question will depend on the company selected by the student. One learning objective of this project is to recognize that different investors have different risk and return preferences. In this situation, the investor would have a higher tolerance for risk and a significant interest in growth potential.

CP14-12.

The response to this question will depend on the company selected by the student. One learning objective of this project is to recognize that different investors have different risk and return preferences. In this situation, the investor would have a higher tolerance for risk and would have a very significant need for growth potential.

FINANCIAL REPORTING AND ANALYSIS PROJECTS

CP14-13.

The response to this question will depend on the most recent annual report that is available and the company selected by the student.

CP14-14.

The response to this question will depend on the most recent annual report that is available.

CP14-15.

The response to this question will depend on the company selected by the student.

CP14-16.

The response to this question will depend on the company selected by the student.

CP14-17.

The response to this question will depend on the company selected by the student.

CP14-18.

The response to this question will depend on the company selected by the student.

CP14-19.

The response to this question will depend on the site selected by the student.