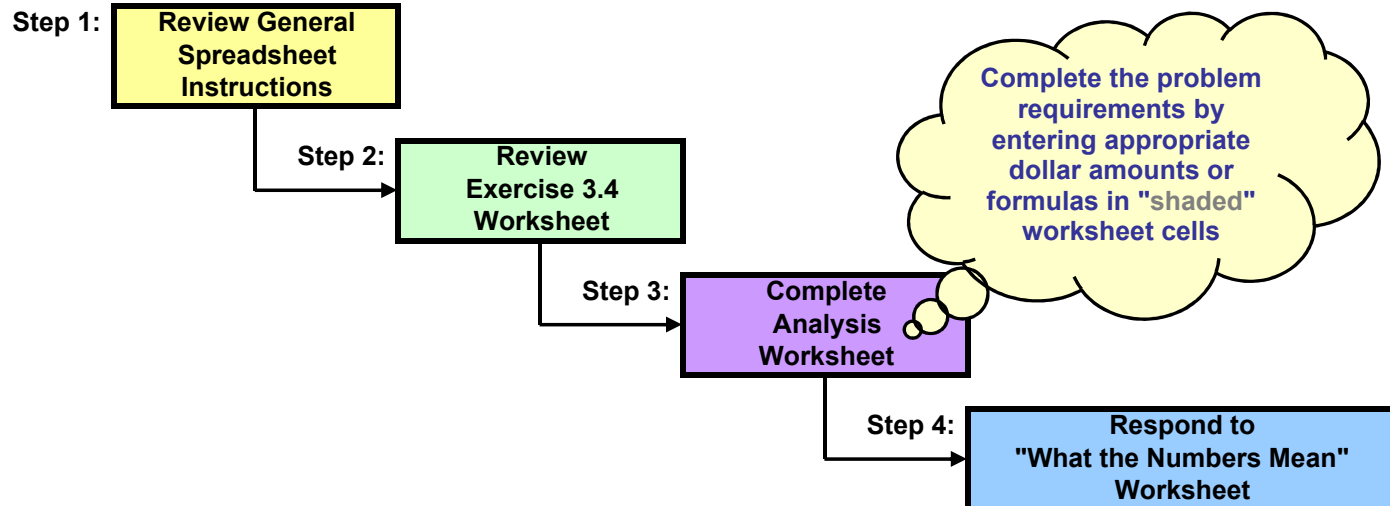


General Spreadsheet Instructions:



Problem Description:

You have accumulated \$8,000 and are looking for the best rate of return that can be earned over the next year. A bank savings account will pay 6%. A one-year bank certificate of deposit will pay 8%, but the minimum investment is \$10,000.

Instructions:

Please proceed to the "Analysis" worksheet and complete the basic problem requirements. Complete the problem requirements by entering appropriate amounts or formulas in shaded worksheet cells:

- a. Calculate the amount of return you would earn if the \$8,000 were invested for one year at 6%.
 - b. Calculate the net amount of return you would earn if \$2,000 were borrowed at a cost of 15%, and then \$10,000 were invested for one year at 8%.
 - c. Calculate the net rate of return on your investment of \$8,000 if you accept the strategy of part *b*.
-
-

After completing the "Analysis" worksheet, please proceed to the "What the Numbers Mean" worksheet and respond to the additional requirements presented.

Complete the Modeling:

- a. Calculate the amount of return you would earn if the \$8,000 were invested for one year at 6%

$$\text{\$8,000.00} \times 6.00\% = \text{\$480.00}$$

- b. Calculate the net *amount* of return you would earn if \$2,000 were borrowed at a cost of 15%, and then \$10,000 were invested for one year at 8%.

Return on \$10,000 at 8%

$$\text{\$10,000.00} \times 8.00\% = \text{\$800.00}$$

Cost of \$2,000 at 15%

$$\text{\$2,000.00} \times 15.00\% = \text{\$300.00}$$

Net return

$$\text{\$800.00} - \text{\$300.00} = \text{\$500.00}$$

- c. Calculate the net *rate* of return on your investment of \$8,000 if you accept the strategy of part b.

$$\text{\$500.00} / \text{\$8,000.00} = 6.25\%$$

What does it mean? Question 1:

In addition to the amount of investment required and the rate of return offered, what other factors would you normally take into consideration before making an investment decision such as the one described in this problem?

A prudent investor would take the following factors into consideration before choosing between alternative investment opportunities:

1. How long is the investing horizon of each investment? In this case, both investments were for one year. If this were not the case, the rate of return calculation would have to be "annualized" before a valid comparison could be made between the alternative investments. **Rate of Return = Principal x Interest x Time.**
2. How flexible is the investment? In this case, the savings account would be more flexible than the certificate of deposit because money can be withdrawn (or deposited) on a day to day basis in a savings account without penalty.
3. What is the relative risk of each investment? In this case, both investments would be considered "risk free" (i.e., certain) because bank savings accounts and certificates of deposit are both backed by the FDIC. If one of the investments were riskier than the other (i.e., an investment in a start-up corporation's common stock), then a prudent investor would demand a higher rate of return on the riskier investment as compensation for the additional risk inherent in the investment.
4. How does each alternative investment "fit" within the investor's overall portfolio? The text does not cover Modern Portfolio Theory or similar "Finance" topics, but it is worth noting that individual investments must be considered within the context of the investor's overall portfolio. An investment in Company X that may appear to be "too risky" when analyzed in isolation, but it may in fact be risk-reducing and return-enhancing when viewed as "part of" an investor's overall portfolio.
5. How does each alternative investment fit within the investor's *investing objectives*? Different people invest for different reasons. A young couple in their 20's or 30's may wish to save for their retirement or for the college education of their children. As such, they would be more inclined to invest in a "growth" portfolio than would be a couple in their 60's or 70's who would be more likely to invest in an "income" oriented portfolio. Subjective factors may also be taken into account, such as level of "social responsibility" taken on by each of the companies whose stock is being considered for investment.

CHAPTER

2

Financial Statements and Accounting Concepts/Principles

CHAPTER OUTLINE:

I. Financial Statements

- A. From Transactions to Financial Statements
- B. Financial Statements Illustrated
 - 1. Explanations and Definitions
 - a. Balance Sheet
 - b. Income Statement
 - c. Statement of Changes in Owners' Equity
 - d. Statement of Cash Flows
 - 2. Comparative Statements in Subsequent Years
 - 3. Illustration of Financial Statement Relationships

II. Accounting Concepts and Principles

- A. Schematic Model of Concepts and Principles
- B. Concepts/Principles Related to the Entire Model
- C. Concepts/Principles Related to Transactions
- D. Concepts/Principles Related to Bookkeeping Procedures and the Accounting Process
- E. Concepts/Principles Related to Financial Statements
- F. Limitations of Financial Statements

III. The Corporation's Annual Report

TEACHING/LEARNING OBJECTIVES:

Principal:

1. To illustrate the four principal financial statements and their basic form.
2. To introduce students to the terminology of financial statements.
3. To present the accounting equation.
4. To explain several of the concepts of financial accounting and financial statement presentation.

Supporting:

5. To explain that financial statements are the product of financial accounting and that the statements represent a historical summary of transactions.
6. To explain some of the limitations of financial statements.
7. To illustrate that the financial statements are included in the corporation's annual report.
8. To introduce and explain several business procedures and their terminology.

TEACHING OBSERVATIONS:

1. This is the keystone chapter of the text, and the material presented here becomes a foundation for all subsequent financial accounting topics. **The instructor must resist trying to teach the entire course from this one chapter!** Instead, try to help students sort out the key ideas that must be learned *now* from those that they should be acquainted with, but that will really be learned when subsequent material is covered. Items to be learned now include:
 - a. What a transaction is.
 - b. The name of each financial statement and what it shows.
 - c. The accounting equation.
 - d. Financial statement relationships.
 - e. Limitations of financial statements.
2. A significant amount of time should be spent illustrating and explaining the purpose and content—by account category (asset, liability, owners' equity, revenue, expense)—of each financial statement, and how the financial statements tie together. Some instructors may wish to discuss gains and losses at this point, but the key is to keep it as simple as possible!

3. It is recommended that the following models be emphasized:

a. **Balance Sheet:**

	Assets	=	Liabilities	+	Owners' Equity
Beginning of Period	\$		\$		\$
Changes During Period	+/-		+/-		+/-
End of Period	\$ <u> </u>		\$ <u> </u>		\$ <u> </u>

b. **Income Statement:**

$$\begin{aligned} & \text{Revenues} \\ & - \text{Expenses} \\ & = \text{Net Income} \end{aligned}$$

c. **Statement of Changes in Owners' Equity:**

$$\begin{aligned} & \text{Beginning Balance of Owners' Equity} \\ + & \text{Owners' Investment} \\ + & \text{Net Income} \\ - & \text{Dividends} \\ \hline = & \text{Ending Balance of Owners' Equity} \end{aligned}$$

(As with the discussion of gains and losses, some instructors may wish to acknowledge “other” sources of changes in owners’ equity such as treasury stock, accumulated other comprehensive income, prior period adjustments, etc. This is a function of instructor preference and the extent to which students have been previously exposed to real world financial statements. An early dose of “reality” can be refreshing for graduate students, but might be distracting to a younger, less experienced audience.)

- It is helpful to spend time with the concepts and principles model, explaining what each concept/principle means and showing how it relates to the "Transactions to Financial Statements" process.
- It is appropriate to emphasize the limitations of financial statements now, because they can create a mindset that helps students understand more specific accounting principles when they are covered later.
- The Business In Practice boxes are designed to enhance student understanding by removing some jargon and explanation from the flow of the text material, while providing a context for that material. These provide good class discussion topics.
- You may wish to make some transparency acetates from the “Study Outlines” contained on the website. These can be used when introducing the material in this chapter so that students don’t lose sight of the “big picture.” Alternatively, students can self study this material by using the narrated slides or the PowerPoint presentations available on the website.
- Remind students that the fully worked-out solutions to all odd-numbered exercises and problems are provided on the website. The student study guide (previously a printed volume that students were required to purchase separately) is also available on the website for free.

ASSIGNMENT OVERVIEW:

This chapter provides a wide variety of assignments to choose from—ranging from the basic association-type exercises, to the more challenging, analytical-type problems. Be careful not to over-assign or under-assign homework from this chapter.

NO.	LEARNING OBJECTIVES	DIFFICULTY & TIME ESTIMATE	OTHER COMMENTS
E2.1.	2,4	Easy, 3-5 min.	Simple account identification exercise.
E2.2.	2,4	Easy, 3-5 min.	See E2.1.
E2.3.	2,3	Med., 5-8 min.	Reinforces the balance sheet equation, and stresses the distinction between PIC and RE.
E2.4.	2,3	Med., 5-8 min.	See E2.3. Good homework assignment.
E2.5.	2,3	Easy, 3-5 min.	“RE is affected <i>only</i> by net income (loss) and dividends.” This is a bit of a fiction, but it works effectively in the Chapter 2. Other effects on retained earnings (i.e., stock dividends and prior period adjustments) are not discussed until Chapter 8.
E2.6.	2,3	Easy, 3-5 min.	See E2.5. Good homework assignment.
E2.7.	2,3	Med., 5-10 min.	The worksheet format is used to help students understand financial statement relationships. Explain that “net assets” = A-L = OE.
E2.8.	2,3	Med., 5-10 min.	See E2.7. Good in-class demonstration exercise.
P2.9.	2,3,6	Med., 7-10 min.	Most instructors omit this problem. Can be used to illustrate the sale of assets at gains/losses, and to emphasize the difference between cash and owners’ equity.
P2.10.	2,3,6	Med., 10-12 min.	See P2.9.
P2.11.	2,3,4	Med., 15-20 min.	Straight-forward problem emphasizing financial statement relationships. Students respond well.
P2.12.	2,3,4	Med., 15-20 min.	See P2.11.
P2.13.	2,3,4	Med., 20-25 min.	Similar to P2.9., P2.10., but requires the preparation of financial statements. Good for in-class demonstration.
P2.14.	2,3,4	Med., 20-25 min.	Excel problem. See P2.13. Good homework assignment.
P2.15.	2,3	Med., 5-8 min.	CAN USE LATER as a Chapter 4 assignment.
P2.16.	2,3,6	Med.-Hard, 15-20.	Group learning problem. Good in-class demonstration problem.
P2.17.	2,3,5	Med., 7-10 min.	Stress the importance of the historical cost principle.
P2.18.	2,3,5,6	Med., 10-12 min.	Group learning problem. See P2.17.
P2.19.	2,4	Med., 10-12 min.	Group learning problem. Emphasizes the structure of the income statement.
P2.20.	2,4	Med., 10-12 min.	Explain why “other income” is excluded from gross profit.
C2.21.	2,4,6,7	Med., 15-20 min.	Excellent conceptual case, but be sure to relate student responses back to the terminology introduced in the chapter.

SOLUTIONS:

Matching

- | | |
|-------|-------|
| 1. S | 9. G |
| 2. H | 10. D |
| 3. B | 11. T |
| 4. AA | 12. N |
| 5. U | 13. I |
| 6. V | 14. W |
| 7. P | 15. M |
| 8. F | |

Multiple Choice

- | | |
|------|-------|
| 1. B | 6. D |
| 2. B | 7. B |
| 3. B | 8. D |
| 4. C | 9. D |
| 5. A | 10. E |

Multiple Choice Annotations:

3. Review Exhibit 2-3.
5. Balance sheets are presented at a point in time, rather than for a period of time.
6. Calculate total owners' equity at the beginning of the year, and then add net income to get the answer. $\$21,000 - \$12,000 = \$9,000$ beginning + $\$5,000$ net income = $\$14,000$ ending.
7. $\$119,000$ beginning + $\$35,000$ net income - $\$29,000$ dividends = $\$125,000$ ending balance.
9. Internal auditors are employees of the corporation, and do not express an opinion about the financial statements; this is done by external CPA auditors (public accounting firms).

E2.1.

	<i>Category</i>	<i>Financial Statement(s)</i>
Cash.....	A	BS
Accounts payable.....	L	BS
Common stock.....	OE	BS
Depreciation expense.....	E	IS
Net sales.....	R	IS
Income tax expense.....	E	IS
Short-term investments.....	A	BS
Gain on sale of land.....	G	IS
Retained earnings.....	OE	BS
Dividends payable.....	L	BS
Accounts receivable.....	A	BS
Short-term debt.....	L	BS

E2.2.

	<i>Category</i>	<i>Financial Statement(s)</i>
Accumulated depreciation.....	A	BS
Long-term debt.....	L	BS
Equipment.....	A	BS
Loss on sale of short-term investments.....	LS	IS
Net income.....	OE	IS
Merchandise inventory.....	A	BS
Other accrued liabilities.....	L	BS
Dividends paid.....	OE	Neither*
Cost of goods sold.....	E	IS
Additional paid-in capital.....	OE	BS
Interest income.....	R	IS
Selling expenses.....	E	IS

* Trick question! “Dividends paid” appears only on the Statement of Changes in Owners’ Equity. Dividends paid are distributions of earnings that reduce retained earnings on the balance sheet. Dividends paid are not expenses, and do not appear on the income statement.

E2.3.

Use the accounting equation to solve for the missing information

Firm A:

$$\begin{aligned} A &= L + PIC + (\text{Beg. RE} + NI - DIV = \text{End. RE}) \\ \$420,000 &= \$215,000 + \$75,000 + (\$78,000 + ? - \$50,000 = ?) \end{aligned}$$

In this case, the ending balance of retained earnings must be determined first:

$$\$420,000 = \$215,000 + \$75,000 + \text{End. RE.}$$

$$\text{Retained earnings, 12/31/10} = \mathbf{\$130,000}$$

Once the ending balance of retained earnings is known, net income can be determined:

$$\$78,000 + NI - \$50,000 = \$130,000$$

$$\text{Net income for 2010} = \mathbf{\$102,000}$$

Firm B:

$$\begin{aligned} A &= L + PIC + (\text{Beg. RE} + NI - DIV = \text{End. RE}) \\ \$540,000 &= \$145,000 + ? + (? + \$83,000 - \$19,000 = \$310,000) \end{aligned}$$

$$\$540,000 = \$145,000 + PIC + \$310,000$$

$$\text{Paid-in capital, 12/31/10} = \mathbf{\$85,000}$$

$$\text{Beg. RE} + \$83,000 - \$19,000 = \$310,000$$

$$\text{Retained earnings, 1/1/10} = \mathbf{\$246,000}$$

Firm C:

$$\begin{aligned} A &= L + PIC + (\text{Beg. RE} + NI - DIV = \text{End. RE}) \\ \$325,000 &= ? + \$40,000 + (\$42,000 + \$113,000 - \$65,000 = ?) \end{aligned}$$

In this case, the ending balance of retained earnings must be determined first:

$$\$42,000 + \$113,000 - \$65,000 = \text{End. RE}$$

$$\text{Retained earnings, 12/31/10} = \mathbf{\$90,000}$$

Once the ending balance of retained earnings is known, liabilities can be determined:

$$\$325,000 = L + \$40,000 + \$90,000$$

$$\text{Total liabilities, 12/31/10} = \mathbf{\$195,000}$$

E2.4.

Use the accounting equation to solve for the missing information

Firm A:

$$A = L + PIC + (\text{Beg. RE} + NI - \text{DIV} = \text{End. RE})$$

$$\$? = \$80,000 + \$55,000 + (\$50,000 + 68,000 - \$12,000 = ?)$$

In this case, the ending balance of retained earnings must be determined first:

$$\$50,000 + \$68,000 - \$12,000 = \text{End. RE.}$$

Retained earnings, 12/31/10 = **\$106,000**

Once the ending balance of retained earnings is known, total assets can be determined:

$$A = \$80,000 + \$55,000 + \$106,000$$

Total assets, 12/31/10 = **\$241,000**

Firm B:

$$A = L + PIC + (\text{Beg. RE} + NI - \text{DIV} = \text{End. RE})$$

$$\$435,000 = ? + \$59,000 + (\$124,000 + \$110,000 - ? = \$186,000)$$

$$\$435,000 = L + \$59,000 + \$186,000$$

Total liabilities, 12/31/10 = **\$190,000**

$$\$124,000 + \$110,000 - \text{DIV} = \$186,000$$

Dividends declared and paid during 2010 = **\$48,000**

Firm C:

$$A = L + PIC + (\text{Beg. RE} + NI - \text{DIV} = \text{End. RE})$$

$$\$155,000 = \$75,000 + \$45,000 + (? + \$25,500 - \$16,500 = ?)$$

In this case, the ending balance of retained earnings must be determined first:

$$\$155,000 = \$75,000 + \$45,000 + \text{End. RE}$$

Retained earnings, 12/31/10 = **\$35,000**

Once the ending balance of retained earnings is known, the beginning balance of retained earnings can be determined:

$$\text{Beg. RE} + \$25,500 - \$16,500 = \$35,000$$

Retained earnings, 1/1/10 = **\$26,000**

E2.5.

Prepare the retained earnings portion of a statement of changes in owners' equity for the year ended December 31, 2010:

Retained Earnings, December 31, 2009.....	\$ 311,800
Less: Net loss for the year ended December 31, 2010.....	(4,700)
Less: Dividends declared and paid in 2010.....	<u>(18,500)</u>
Retained Earnings, December 31, 2010.....	<u>\$288,600</u>

E2.6.

Retained Earnings, December 31, 2009.....	?
Less: Net income for the year ended December 31, 2010.....	90,400
Less: Dividends declared and paid in 2010.....	<u>(18,000)</u>
Retained Earnings, December 31, 2010.....	<u>\$841,200</u>

Solving the model, retained earnings at December 31, 2009 was **\$768,800**.

E2.7.

	<u>OE</u>			
	A	=	L	+ PIC + RE
Beginning:	\$12,400	=	\$7,000	+ \$ 0 + \$5,400
Changes:	?	=	-1,200	+ 0 + 3,000 (net income)
				<u>?</u> (dividends)
Ending:	<u>?</u>	=	<u>?</u>	+ <u>0</u> + <u>\$6,000</u>

Solution approach:

(Remember that **net assets** = *Assets - Liabilities = Owners' equity = PIC + RE*).

Since paid-in capital did not change during the year, assume that the beginning and ending balances are \$0. Thus, beginning retained earnings = \$12,400 - \$7,000 = **\$5,400**, and ending retained earnings = net assets at the end of the year = **\$6,000**. By looking at the RE column, it can be seen that dividends must have been **\$2,400**. Also by looking at the liabilities column, it can be seen that ending liabilities are **\$5,800**, and therefore ending assets must be **\$11,800**. Thus, total assets decreased by **\$600** during the year (\$12,400 - \$11,800), which is equal to the net decrease on the right-hand side of the balance sheet (-\$1,200 liabilities + \$3,000 net income - \$2,400 dividends = \$600 net decrease in assets).

E2.8.

	A	=	L	+	OE		
					PIC	+ RE	
Beginning:	?	=	\$320,000	+	\$ 30,000	+	?
Changes:	+65,000	=	-18,000	+	?	+	?
							(net income or loss)
							-25,000 (dividends)
Ending:	<u>?</u>	=	<u>?</u>	+	<u>\$192,000</u>	+	<u>?</u>
							(\$429,000 total OE)

Solution approach:

Ending retained earnings = \$429,000 total owners' equity - \$192,000 paid-in capital = **\$237,000**. Ending liabilities = \$320,000 beginning liabilities - \$18,000 decrease = **\$302,000**. Thus, ending assets = \$302,000 liabilities + \$429,000 owners' equity = **\$731,000**. Beginning assets = \$731,000 ending assets - \$65,000 increase = **\$666,000**. Beginning retained earnings = \$666,000 assets - \$320,000 liabilities - \$30,000 paid-in capital = **\$316,000**. Once the beginning and ending retained earnings balances are known, the net income or loss for the year can be determined as follows:

Retained earnings, beginning.....	\$316,000
Less: Net income or loss for the year	?
Less: Dividends declared and paid during the year	(25,000)
Retained earnings, ending.....	<u>\$237,000</u>

Solving the model, the net loss of the year = \$(54,000).

P2.9. Set up the accounting equation and show the effects of the transactions described. Since total assets must equal total liabilities and owners' equity, the unadjusted owners' equity can be calculated by subtracting liabilities from the total of the assets given.

	A				=	L	+	OE
	Cash	Accounts + Receivable	Inventory	Plant & + Equipment		Liabilities	+	Owners' Equity
Data given	\$ 22,800	+ 114,200	+ 61,400	+ 265,000	=	305,600	+	157,800
Collection of accounts receivable	+108,490	-114,200						-5,710
Inventory liquidation	+49,120		-61,400					-12,280
Sale of plant & equipment	+190,000			-265,000				-75,000
Payment of liabilities	-305,600					-305,600		0
Balance	\$ 64,810	0	0	0		0		\$ 64,810

*The effects of these transactions on owners' equity represent losses from the sale (or collection) of the non-cash assets.

P2.10.

- a. The solution approach is similar to that shown in Problem 2-9. Gains or losses can be calculated for the sale (or collection) of each of Kimber Co.'s non-cash assets, as follows:

	<i>Cash received upon sale or collection of asset</i>	<i>Gain (loss) recorded and effect on Owners' Equity</i>
Accounts receivable	\$62,600 * 88% = \$55,088	\$62,600 * 12% = \$(7,512)
Merchandise inventory . .	\$114,700 * 85% = 97,495	\$114,700 * 15% = (17,205)
Buildings & Equipment . .	BV# + \$40,000 = 188,000	Amount above BV = 40,000
Land	Appraised amount = 65,000	\$65,000 - \$51,000 = 14,000
Total cash received	<u>\$405,583</u>	<u>Net gain \$ 29,283</u>

\$343,000 - \$195,000 accumulated depreciation = \$148,000 book value of buildings & equipment.

The \$405,583 cash received from the liquidation of non-cash assets would be added to the beginning cash balance of \$18,400, and \$423,983 is the amount of cash available to pay the claims of creditors and stockholders. Liabilities would be paid first (including the amounts that are *not* shown on the balance sheet), and the balance would be paid to the stockholders:

Total cash available...		\$423,983
Accounts payable	\$46,700	
Notes payable	58,500	
Wages payable (not shown on balance sheet).....	2,400	
Interest payable (not shown on balance sheet).....	5,250	
Long-term debt.....	<u>64,800</u>	<u>(177,650)</u>
Total cash available to stockholders.....		<u>\$246,333</u>

The total cash available to stockholders upon liquidation can be verified, as follows:

Total owners' equity (<i>unadjusted</i> , from balance sheet).....	\$224,700
Add: Gain on sale of buildings & equipment	40,000
Add: Gain on sale of land.....	14,000
Less: Loss on collection of accounts receivable	(7,512)
Less: Loss on liquidation of merchandise inventory.	(17,205)
Less: Unrecorded wages expense.....	(2,400)
Less: Unrecorded interest expense....	<u>(5,250)</u>
Total owners' equity, as adjusted...	<u>\$246,333</u>

- b. As shown in the schedule above, total owners' equity on the balance sheet had not been adjusted for the gains and losses from the sale (or collection) of the non-cash assets; nor was it adjusted for the effects of the expense/liability accruals for wages and interest.

P2.11.

a.	Accounts receivable ..	\$ 33,000
	Cash ..	9,000
	Supplies ..	6,000
	Merchandise inventory.....	<u>31,000</u>
	Total current assets.....	<u>\$ 79,000</u>
b.	Accounts payable	\$ 23,000
	Long-term debt.....	40,000
	Common stock	10,000
	Retained earnings.....	<u>59,000</u>
	Total liabilities and owners' equity ..	<u>\$132,000</u>
c.	Sales revenue.....	\$140,000
	Cost of goods sold.....	<u>(90,000)</u>
	Gross profit ...	\$ 50,000
	Service revenue	20,000
	Depreciation expense	<u>(12,000)</u>
	Supplies expense	<u>(14,000)</u>
	Earnings from operations (operating income).....	<u>\$ 44,000</u>
d.	Earnings from operations (operating income).....	\$ 44,000
	Interest expense.....	<u>(4,000)</u>
	Earnings before taxes	\$ 40,000
	Income tax expense ...	<u>(12,000)</u>
	Net income	<u>\$ 28,000</u>
e.	\$12,000 income tax expense / \$40,000 earnings before taxes = 30% average tax rate	
f.	Retained earnings, January 1, 2010 ..	?
	Net income for the year.....	\$ 28,000
	Dividends declared and paid during the year	<u>(16,000)</u>
	Retained earnings, December 31, 2010	<u>\$ 59,000</u>

Solving the model, the beginning retained earnings balance must have been **\$47,000**, because the account balance increased by \$12,000 during the year to an ending balance of \$59,000.

P2.12.

a. Merchandise inventory.....	\$ 840,000
Accounts receivable ..	192,000
Cash.....	<u>144,000</u>
Total current assets.....	<u>\$1,176,000</u>
Less: Accounts payable *.....	<u>(92,000)</u>
Current assets less current liabilities.	<u>\$1,084,000</u>

* No other current liabilities are included in the problem.

b. Total current assets.....	\$1,176,000
Land.....	128,000
Equipment	72,000
Accumulated depreciation.....	<u>(24,000)</u>
Total assets	<u>\$1,352,000</u>

c. Sales revenue.	\$2,480,000
Cost of goods sold.....	<u>(1,760,000)</u>
Gross profit ...	\$720,000
Rent expense	<u>(72,000)</u>
Depreciation expense	<u>(12,000)</u>
Earnings from operations (operating income).....	<u>\$ 636,000</u>

d. Earnings from operations (operating income).....	\$ 636,000
Interest expense.....	<u>(36,000)</u>
Earning before taxes..	\$ 600,000
Income tax expense ...	<u>(240,000)</u>
Net income	<u>\$ 360,000</u>

e. $\$240,000 \text{ income tax expense} / \$600,000 \text{ earnings before taxes} = \mathbf{40\% \text{ average tax rate}}$

f. Retained earnings, January 1, 2010 ..	?
Net income for the year.....	\$360,000
Dividends declared and paid during the year	<u>(256,000)</u>
Retained earnings, December 31, 2010	<u>\$900,000</u>

Solving the model, the beginning retained earnings balance must have been **\$796,000**, because the account balance increased by \$104,000 during the year to an ending balance of \$900,000.

P2.13.

a.

BREANNA, INC.
Income Statement
For the Year Ended December 31, 2010

Sales ..	\$200,000
Cost of goods sold.....	<u>(128,000)</u>
Gross profit ...	\$ 72,000
Selling, general, and administrative expenses	<u>(34,000)</u>
Earnings from operations (operating income).....	\$ 38,000
Interest expense.....	<u>(6,000)</u>
Earnings before taxes	\$ 32,000
Income tax expense ...	<u>(8,000)</u>
Net income	<u>\$ 24,000</u>

BREANNA, INC.
Statement of Changes in Owners' Equity
For the Year Ended December 31, 2010

Paid-in capital:	
Common stock	\$ 90,000
Retained earnings:	
Beginning balance	\$ 23,000
Net income for the year	24,000
Less: Dividends declared and paid during the year ..	<u>(12,000)</u>
Ending balance	<u>35,000</u>
Total owners' equity .	<u>\$125,000</u>

BREANNA, INC.
Balance Sheet
December 31, 2010

Assets:	
Cash ..	\$ 65,000
Accounts receivable ..	10,000
Merchandise inventory.....	<u>37,000</u>
Total current assets....	\$112,000
Equipment	120,000
Less: Accumulated depreciation	<u>(52,000)</u>
Total assets	<u>\$180,000</u>
Liabilities:	
Accounts payable	\$ 15,000
Long-term debt.....	<u>40,000</u>
Total liabilities	\$ 55,000
Owners' Equity:	
Common stock	\$ 90,000
Retained earnings	<u>35,000</u>
Total owners' equity .	<u>\$125,000</u>
Total liabilities and owners' equity...	<u>\$180,000</u>

P2.13. (continued)

- b. \$8,000 income tax expense / \$32,000 earnings before taxes = **25% average tax rate.**
- c. \$6,000 interest expense / \$40,000 long-term debt = **15% interest rate.** This assumes that the year-end balance of long-term debt is representative of the *average* long-term debt account balance throughout the year.
- d. \$90,000 common stock / 9,000 shares = **\$10 per share par value.**
- e. \$12,000 dividends declared and paid/ \$24,000 net income = **50%.** This assumes that the board of directors has a policy to pay dividends in proportion to earnings.

P2.14.

a.

SHAE, INC.
Income Statement
For the Year Ended December 31, 2010

Sales	\$900,000
Cost of goods sold.....	<u>(540,000)</u>
Gross profit	\$360,000
Selling, general, and administrative expenses	<u>(72,000)</u>
Earnings from operations (operating income)	\$288,000
Interest expense.....	<u>(48,000)</u>
Earnings before taxes.	\$240,000
Income tax expense.....	<u>(84,000)</u>
Net income.....	<u>\$156,000</u>

SHAE, INC.
Statement of Changes in Owners' Equity
For the Year Ended December 31, 2010

Paid-in capital:	
Common stock	\$ 210,000
Retained earnings:	
Beginning balance.....	\$129,000
Net income for the year	156,000
Less: Dividends declared and paid during the year ...	<u>(39,000)</u>
Ending balance	<u>246,000</u>
Total owners' equity ..	<u>\$456,000</u>

P2.14. (continued)

a.

SHAE, INC.
Balance Sheet
December 31, 2010

Assets:

Cash	\$192,000	
Accounts receivable	120,000	
Merchandise inventory	<u>264,000</u>	
Total current assets		\$576,000
Buildings and equipment	504,000	
Less: Accumulated depreciation	<u>(216,000)</u>	<u>288,000</u>
Total assets.....		<u>\$864,000</u>

Liabilities:

Accounts payable.....	\$ 90,000	
Accrued liabilities	18,000	
Notes payable (long term).....	<u>300,000</u>	
Total liabilities		\$408,000

Owners' Equity:

Common stock	\$210,000	
Retained earnings	<u>246,000</u>	
Total owners' equity ..		<u>\$456,000</u>
Total liabilities and owners' equity ...		<u>\$864,000</u>

- b. $\$84,000 \text{ income tax expense} / \$240,000 \text{ earnings before taxes} = \mathbf{35\% \text{ average tax rate}}$
- c. $\$48,000 \text{ interest expense} / \$300,000 \text{ notes payable (long term)} = \mathbf{16\% \text{ interest rate.}}$
 This assumes that the year-end balance of long-term debt is representative of the *average* long-term debt account balance throughout the year. If large amounts of cash had been borrowed near the end of the year, then the interest rate charged on long-term debt would be greater than 16% because the average debt outstanding would have been less than \$300,000. Likewise, if large repayments of long-term debt had occurred near year-end, then the interest rate was less than 16% because the average outstanding long-term debt would have been greater than \$300,000.
- d. $\$210,000 \text{ common stock} / 42,000 \text{ shares} = \mathbf{\$5 \text{ per share par value.}}$
- e. $\$39,000 \text{ dividends declared and paid} / \$156,000 \text{ net income} = \mathbf{25\%}$. This assumes that the board of directors has a policy to pay dividends in proportion to earnings.

P2.15.

	Assets = Liabilities + Owners' Equity		
a. Borrowed cash on a bank loan	+	+	NE
b. Paid an account payable	-	-	NE
c. Sold common stock	+	NE	+
d. Purchased merchandise inventory on account	+	+	NE
e. Declared and paid dividends	-	NE	-
f. Collected an account receivable	NE	NE	NE
g. Sold inventory on account at a profit	+	NE	+
h. Paid operating expenses in cash	-	NE	-
i. Repaid principal and interest on a bank loan	-	-	-

P2.16.

	Assets = Liabilities + Owner's Equity		
August 1, 2010 totals.....	\$700,000	\$550,000	\$150,000
August 3, borrowed \$12,000 in cash from the bank	+ 24,000	+ 24,000	
New totals.....	\$724,000	\$574,000	\$150,000
August 7, bought merchandise inventory valued at			
\$38,000 on account.....	+38,000	+38,000	
New totals.....	\$762,000	\$612,000	\$150,000
August 10, paid \$14,000 cash operating expenses	-14,000		-14,000
New totals.....	\$748,000	\$612,000	\$136,000
August 14, received \$100,000 in cash from sales	+100,000		+100,000
of merchandise that had cost \$66,000	-66,000		-66,000
New totals	\$782,000	\$612,000	\$170,000
August 17, paid \$28,000 owed on accounts payable.....	-28,000	-28,000	
New totals.....	\$754,000	\$584,000	\$170,000
August 21, collected \$34,000 of accounts receivable.....	0		
New totals.....	\$754,000	\$584,000	\$170,000
August 24, repaid \$20,000 to the bank, plus \$400 interest.....	-20,400	-20,000	-400
New totals.....	\$733,600	\$564,000	\$169,600
August 29, paid Kenisha Morgan a \$10,000 cash dividend	-10,000		-10,000
August 31, 2010 totals.....	\$723,600	= \$564,000 +	\$159,600

- b. Total revenues were \$100,000 (from sales) and total expenses were \$80,400 (which included \$14,000 of operating expenses, \$66,000 of cost of goods sold, and \$400 of interest expense). Thus, net income was \$19,600 (\$100,000 - \$80,400).

Alternative calculation: Owner's equity increased by \$9,600 during the month of August (*see answer to part c*), even though a \$10,000 cash dividend was declared and paid to Kenisha Morgan. Since there were no capital stock transactions during the month, net income was \$19,600. (\$150,000 beginning owner's equity, plus \$19,600 net income, minus \$10,000 dividends, equals \$159,600 ending owner's equity.)

c.	<i>August 1</i>	<i>August 31</i>	<i>Net Change</i>
Total assets	\$700,000	\$723,600	\$23,600
Total liabilities	550,000	564,000	14,000
Total owner's equity	150,000	159,600	9,600

P2.16. (continued)

- d. Kenisha Morgan's owner's equity *increased* by \$34,000 as a result of the sale on August 14th (\$100,000 revenue - \$66,000 cost of goods sold). Her owner's equity *decreased* by \$14,000 for the operating expenses recorded on August 10th, by \$400 for the interest expense recorded on August 24th, and by \$10,000 for the cash dividend recorded on August 29th. In other words, her owner's equity was increased by revenues, and it was decreased by expenses and dividends.
- e. Interest is an expense because it represents a necessary payment to *others* (i.e., creditors) for the use of their money—thus, it is a “cost” of doing business. Dividends are a distribution of profits to the owners of the firm and represent a partial liquidation of the firm. A dividend is not an expense because it represents a profit distribution; it is not a “cost” of doing business.
- f. When money is borrowed from the bank, an asset (cash) is increased and a liability (notes payable) is also increased by an equal amount. Net income is increased only when revenue has been earned—and money borrowed from the bank represents a liability that must be repaid, not revenue that has been earned.
- g. Paying off accounts payable decreases an asset (cash) and decreases a liability (accounts payable) by an equal amount. Collecting an account receivable increases an asset (cash) and decreases another asset (accounts receivable) by equal amounts. *In both cases, only balance sheet accounts are involved.* Net income is increased by revenues and decreased by expenses. The expense associated with a cash payment of an account payable would have been recorded in an earlier transaction (when the expense was *incurred* and the account payable was established); by the same logic, the revenue associated with the collection of an account receivable would have been recorded in an earlier transaction (when the revenue was *earned* and the account receivable was established).

P2.17.

Amounts shown in the balance sheet below reflect the following use of the data given:

- a. An asset should have a "probable future economic benefit"; therefore the accounts receivable are stated at the amount expected to be collected from customers.
- b. Assets are reported at original cost, not current "worth." Depreciation in accounting reflects the spreading of the cost of an asset over its estimated useful life.
- c. Assets are reported at original cost, not at an assessed or appraised value.
- d. The amount of the note payable is calculated using the accounting equation, $A = L + OE$. Total assets can be determined based on items (a), (b), and (c); total owners' equity is known after considering item (e); and the note payable is the difference between total liabilities and the accounts payable.
- e. The retained earnings account balance represents the difference between cumulative net income and cumulative dividends.

P2.17. (continued)

Assets:		Liabilities and Owners' Equity:	
Cash	\$ 700	Note payable	\$ 2,200
Accounts receivable.....	3,400	Accounts payable.....	<u>3,400</u>
Land.....	11,000	Total liabilities	<u>\$ 5,600</u>
Automobile.....	\$18,000	Common stock	8,000
Less: Accumulated depreciation	<u>(6,000)</u>	Retained earnings	<u>13,500</u>
	<u>12,000</u>	Total owners' equity ..	<u>21,500</u>
Total assets.....	<u>\$27,100</u>	Total liabilities and owners' equity.....	<u>\$27,100</u>

P2.18.

EPSICO, INC.
Balance Sheets
December 31, 2010 and 2009

Assets	2010	2009	Liabilities	2010	2009
Current assets:			Current liabilities:		
Cash	\$ 38	\$ 30	Note payable	\$ 49	\$ 40
Accounts receivable.....	126	120	Accounts payable	<u>123</u>	<u>110</u>
Inventory	<u>241</u>	<u>230</u>	Total current liabilities ..	<u>\$ 172</u>	<u>\$ 150</u>
Total current assets	<u>\$ 405</u>	<u>\$ 380</u>	Long-term debt.....	<u>\$ 60</u>	<u>\$ 80</u>
Land.....	\$ 25	\$ 25	Owners' Equity		
Equipment.....	390	375	Common stock ...	\$ 200	\$ 200
Less: Accumulated depreciation	<u>(180)</u>	<u>(160)</u>	Retained earnings	<u>208</u>	<u>190</u>
Total land & equipment	<u>\$ 235</u>	<u>\$ 240</u>	Total owners' equity	<u>\$ 408</u>	<u>\$ 390</u>
Total assets	<u>\$ 640</u>	<u>\$ 620</u>	Total liabilities & owners' equity	<u>\$ 640</u>	<u>\$ 620</u>

Solution approach:

- Retained earnings, 12/31/09..... \$190
Net income for 2010 (given)..... 26
Dividends for 2010 (given)..... (8)
Retained earnings, 12/31/10 \$208
- Cash at 12/31/10 is \$8 more than at 12/31/09.
- Cost of equipment at 12/31/10 is \$15 more than the balance at 12/31/09.
- Land balance at 12/31/10 is the same as at 12/31/09. Fair market value is irrelevant.
- Calculate total current assets, total land and equipment, and total assets.
- Total assets can then be used for total liabilities and owners' equity.
- Total owners' equity is calculated and added to total current liabilities. This amount is subtracted from total liabilities and owners' equity to determine long-term debt.

P2.19.

	2008	2007
For the years ended November 30 and 25, respectively:		
Net revenues.....	\$ 4,400,914	\$ 4,360,929
Cost of goods sold.....	<u>2,261,112</u>	<u>2,318,883</u>
Gross profit.....	2,139,802	2,042,046
Selling, general and administrative, and other operating expenses.....	<u>1,614,730</u>	<u>1,401,005</u>
Operating income	525,072	641,041
Interest expense and other expenses, net.....	<u>156,903</u>	<u>265,415</u>
Income before income taxes.....	368,169	375,626
Income tax expense (benefit).....	<u>138,884</u>	<u>(84,759)</u>
Net income.....	<u><u>\$ 229,285</u></u>	<u><u>\$ 460,385</u></u>
As at November 30 and 25, respectively:		
Total assets.....	\$ 2,776,875	\$ 2,850,666
Total liabilities.....	3,125,800	3,244,575
Total stockholders' deficit.....	(348,925)	(393,909)

P2.20.

	2008	2007
a. Net sales	\$32,479	\$24,006
Cost of sales ..	<u>(21,334)</u>	<u>(15,852)</u>
Gross profit ...	<u>\$11,145</u>	<u>\$ 8,154</u>
Gross profit/net sales.	34.3%	34.0%

The change in the gross profit/net sales ratio during the year ended September 27, 2008 was not terribly significant relative to the prior year results.

	2008	2007
b. Gross profit (from part <i>a</i> above)	\$11,415	\$ 8,154
Research and development expenses	1,109	782
Selling, general, and administrative expenses	<u>3,761</u>	<u>2,963</u>
Operating income	<u>\$ 6,545</u>	<u>\$ 4,409</u>
Operating income/net sales ...	20.2%	18.4%

The change in operating income as a percentage of net sales during the fiscal year ended on September 27, 2008 would be considered to be quite significant by most financial analysts particularly if this trend were to continue in future years.

	2008	2007
c. Operating income (from part <i>b</i> above)	\$ 6,545	\$ 4,409
Other income, net	<u>350</u>	<u>365</u>
Income before taxes ..	\$ 6,895	\$ 4,774
Provision for income taxes....	<u>(2,061)</u>	<u>(1,278)</u>
Net income	<u>\$ 4,834</u>	<u>\$ 3,496</u>

Solution approach: The “Income before taxes” line has been added to emphasize the importance of understanding the difference between operating and non-operating items on the income statement. The problem could be solved without calculating this number.

C2.21.

In parts *a*, *b* and *d*, if students are willing to share the different kinds of assets, liabilities, revenues, expenses, and cash flows they have identified, this case can be used to review the basic characteristics of the balance sheet, income statement, and statement of cash flows.

In part *c*, the point is that *projected* income activity for the current period has a direct impact on the *projected* balance sheet.

In part *e*, the point is that income and cash flow are two different things entirely. Possible explanations might include:

- Receipt of student loan proceeds (or scholarships, grants) towards the end of the semester.
- Certain costs of attending college (i.e., tuition, room and board, meal plans) might be incurred by the student, but not yet paid.
- A student work on a part-time (or full-time) basis throughout the semester, which may generate more cash flow than she was able to accumulate during the summer preceding the fall semester.

TAKE-HOME QUIZ —CHAPTER 2

NAME _____

Presented below is the Statement of Cash Flows for Marstore, Inc., for the year ended December 31, 2011. Also shown is a partially completed comparative balance sheet as of December 31, 2011 and 2010.

MARSTORE, INC.
Statement of Cash Flows
For the Year Ended December 31, 2011

Cash flows from operating activities:

Net Income	\$ 23,000	
Add (deduct) items not affecting cash:		
Depreciation expense	6,000	
Decrease in accounts receivable	8,000	
Decrease in accounts payable	<u>(6,000)</u>	
Net cash provided by operating activities		\$31,000

Cash flows from investing activities:

Purchase of store fixtures.....	\$(4,000)
---------------------------------	-----------

Cash flows from financing activities:

Repayment of long-term debt	\$ (2,000)	
Payment of cash dividends on common stock	<u>(5,000)</u>	
Net cash used by financing activities.....		<u>\$(7,000)</u>
Increase in cash for the year.....		<u>\$20,000</u>

MARSTORE, INC.
Balance Sheets
December 31, 2011 and 2010

	<i>2011</i>	<i>2010</i>		<i>2011</i>	<i>2010</i>
Current assets:					
Cash.....	\$ 37,000	\$ _____	Accounts payable.....	\$ _____	\$18,000
Accounts receivable.....	_____	39,000	Long-term debt.....	18,000	_____
Total current assets.....	\$ _____	\$ _____	Total liabilities.....	\$ _____	\$ _____
Store fixtures.....	\$ _____	\$ 24,000	Common stock.....	\$ _____	\$ 20,000
Less: Accumulated			Retained earnings.....	_____	_____
depreciation.....	(13,000)	_____	Total owners' equity..	\$ _____	\$ _____
Net store fixtures.....	\$ _____	\$ _____	Total liabilities and		
Total assets.....	\$ _____	\$ _____	owners' equity.....	\$ _____	\$ _____

TAKE-HOME QUIZ KEY—CHAPTER 2

- Use information in the statement of cash flows to determine either the beginning or ending amounts for assets and liabilities. For example, accounts receivable decreased \$8,000, so at the end of 2011 the balance was \$31,000.
 - Based on total assets and total liabilities at the beginning and end of the year, determine total owners' equity at each date.
 - Using total owners' equity at the end of 2010, solve for retained earnings at that date.
 - The cash flows from financing activities on the statement of cash flows does not show any cash from the sale of additional stock, so the ending balance is the same as the beginning balance. Knowing this, retained earnings at the end of the year can be determined.
 - Or, use information about net income and dividends from the statement of cash flows, and the beginning balance of retained earnings (as determined above) to calculate ending retained earnings. Then, capital stock at the end of the year can be determined.

MARSTORE, INC.
Balance Sheets
December 31, 2011 and 2010

	<i>2011</i>	<i>2010</i>		<i>2011</i>	<i>2010</i>
Current assets:					
Cash.....	\$37,000	\$17,000	Accounts payable.....	\$12,000	\$18,000
Accounts receivable.....	<u>31,000</u>	<u>39,000</u>	Long-term debt.....	<u>18,000</u>	<u>20,000</u>
Total current assets....	<u>\$68,000</u>	<u>\$56,000</u>	Total liabilities.....	<u>\$30,000</u>	<u>\$38,000</u>
Store fixtures.....	\$28,000	\$24,000	Common stock.....	\$20,000	\$20,000
Less: Accumulated			Retained earnings.....	<u>33,000</u>	<u>15,000</u>
depreciation.....	<u>(13,000)</u>	<u>(7,000)</u>	Total owners' equity....	<u>\$53,000</u>	<u>\$35,000</u>
Net store fixtures.....	<u>\$15,000</u>	<u>\$17,000</u>	Total liabilities and		
Total assets.....	<u>\$83,000</u>	<u>\$73,000</u>	owners' equity.....	<u>\$83,000</u>	<u>\$73,000</u>

- No. The balance sheet shows the original cost of assets, less accumulated depreciation, which for accounting purposes is that portion of the cost of the asset that has been "used up."
- | | |
|---|-----------------|
| Retained earnings, 12/31/10..... | \$15,000 |
| Add: Net income for the year..... | 23,000 |
| Less: Dividends declared and paid | <u>(5,000)</u> |
| Retained earnings, 12/31/11..... | <u>\$33,000</u> |