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 Stockholders' 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, stockholders' 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	+	Stockholders' Equity
Beginning of Period	$		$		$
Changes During Period	+/-		+/-		+/-
End of Period	$		$		$

   b. **Income Statement:**

   Revenues
   \- Expenses
   = Net Income

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

   Beginning Balance of Stockholders' Equity
   \+ Owners' Investment
   \+ Net Income
   \- Dividends
   = Ending Balance of Stockholders' Equity

   (As with the discussion of gains and losses, some instructors may wish to acknowledge "other" sources of changes in stockholders' 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.)

4. 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.

5. 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.

6. 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.

7. You may wish to encourage students to self-study this material by using the PowerPoint presentations available on the website.

8. 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 mini-exercises and 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
M2.1.	2, 3	Easy, 3-5 min.	Similar to E2.9.-E2.14.
M2.2.	2, 3	Easy, 3-5 min.	See M2.1. Good in-class demo exercise.
M2.3.	2, 3	Med., 7-10 min.	Challenging mini-exercise. Requires clear-cut understanding of income statement relationships. *Encourage use of Exhibit 2-2 as a solution model.*
M2.4.	2, 3	Med., 7-10 min.	See M2.3. Good way to review and reinforce the structure of the income statement in class.
M2.5.	2, 4	Easy, 2-3 min.	Basic identification of asset accounts.
M2.6.	2, 4	Easy, 2-3 min.	Basic identification of income statement accounts.
E2.7.	2, 4	Easy, 3-5 min.	Simple account identification exercise.
E2.8.	2, 4	Easy, 3-5 min.	See E2.7.
E2.9.	2, 3	Med., 5-8 min.	Reinforces the balance sheet equation, and stresses the distinction between PIC and RE.
E2.10.	2, 3	Med., 5-8 min.	See E2.9. Good homework assignment.
E2.11.	2, 3	Easy, 3-5 min.	"RE is affected *only* 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.
E2.12.	2, 3	Easy, 3-5 min.	See E2.11. Good homework assignment.
E2.13.	2, 3	Med., 5-10 min.	The worksheet format is used to help students understand financial statement relationships. Explain that "net assets" = A-L = SE.
E2.14.	2, 3	Med., 5-10 min.	See E2.13. Good in-class demonstration exercise.
P2.15.	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 stockholders' equity.
P2.16.	2, 3, 6	Med., 10-12 min.	See P2.15.
P2.17.	2, 3, 4	Med., 15-20 min.	Straight-forward problem emphasizing financial statement relationships. Students respond well.
P2.18.	2, 3, 4	Med., 15-20 min.	See P2.17.
P2.19.	2, 3, 4	Med., 20-25 min.	Similar to P2.15., P2.16., but requires the preparation of financial statements. Good for in-class demonstration.
P2.20.	2, 3, 4	Med., 20-25 min.	**Excel problem.** See P2.19. Good homework assignment.
P2.21.	2, 3	Med., 5-8 min.	Can use later as a Chapter 4 assignment.
P2.22.	2, 3, 6	Med.-Hard, 15-20.	**Group learning problem.** Good in-class demonstration problem.
P2.23.	2, 3, 5	Med., 7-10 min.	Stress the importance of the historical cost principle.
P2.24.	2, 3, 5, 6	Med., 10-12 min.	**Group learning problem.** See P2.23.
P2.25.	2, 4	Med., 10-12 min.	**Group learning problem.** Emphasizes the structure of the income statement.
P2.26.	2, 4	Med., 10-12 min.	Explain why "Other Income, net" is excluded from operating income.
C2.27.	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:

1. Review Exhibit 2-3.

2. Balance sheets are presented at a point in time, rather than for a period of time.

3. Calculate total stockholders' 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.

4. $119,000 beginning + $35,000 net income - $29,000 dividends = $125,000 ending balance.

5. Internal auditors are employees of the corporation, and thus lack the independence required to express an opinion about the fairness of the firm's financial statements; external CPA auditors (public accounting firms) must be engaged to provide such services.

M2.1.

	A	=	L	+	SE	
Beginning:	$48,000	=	$27,000	+	?	
Changes:		=			+8,000	net income (increase to retained earnings)
					-2,000	dividends (decrease to retained earnings)
Ending:		=		+	?	

Solution approach:
Beginning stockholders' equity = $48,000 - $27,000 = **$21,000**. Net income increases retained earnings and dividends decrease retained earnings. Retained earnings are part of stockholders' equity, so assuming no other changes occurred during the year, ending stockholders' equity = $21,000 + $8,000 - $2,000 = **$27,000**.

M2.2.

	SE	
Beginning:	$82,000	
Changes:	+10,000	common stock issued at par value (increase to paid-in capital)
	+12,000	net income (increase to retained earnings)
	-3,000	dividends (decrease to retained earnings)
Ending:	?	

Solution approach:
No information is given about assets or liabilities, so the focus is entirely on stockholders' equity. Beginning stockholders' equity +/- changes during the year = ending stockholders' equity. $82,000 + $10,000 + $12,000 - $3,000 = **$101,000.**

M2.3.

Net sales	$125,000	
Cost of goods sold	?	= 75,000
Gross profit	$ 50,000	
Selling, general, and administrative expenses	22,000	
Income from operations	?	= 28,000
Interest expense	?	= 3,000
Income before taxes	$?	= 25,000
Income tax expense	5,000	
Net income	$ 20,000	

Solution approach:
Set up an income statement using the structure and format as shown in Exhibit 2-2, then solve for missing amounts.

One possible calculation sequence: (1) $125,000 - $50,000 = **$75,000** cost of goods sold. (2) $50,000 - $22,000 = **$28,000** income from operations. (3) $20,000 + $5,000 = **$25,000** income before taxes. (4) $28,000 - $25,000 = **$3,000** interest expense.

M2.4.

Net sales	$?	= 100,000
Cost of goods sold	40,000	
Gross profit	$?	= 60,000
Selling, general, and administrative expenses	22,000	
Income from operations	38,000	
Interest expense	6,000	
Income before taxes	$?	= 32,000
Income tax expense	8,000	
Net income	$?	= 24,000

Solution approach:
Set up an income statement using the structure and format as shown in Exhibit 2-2, then solve for missing amounts.

Calculation sequence: (1) $38,000 - $6,000 = **$32,000** income before taxes.
(2) $32,000 - $8,000 = **$24,000** net income. (3) $38,000 + $22,000 = **$60,000** gross profit. (4) $60,000 + $40,000 = **$100,000** net sales.

An alternative calculation sequence would have been to solve for gross profit and net sales first, and to then solve for income before taxes and net income.

M2.5.

Common stock and retained earnings are stockholders' equity accounts; cost of goods sold and interest expense are expenses; sales is a revenue account; long-term debt and accounts payable are liabilities.

The assets listed are: land, merchandise inventory, equipment, accounts receivable, supplies, cash, and buildings.

M2.6.

Sales and service revenues are revenues accounts on the income statement; income tax expense, cost of goods sold, and rent expense are expenses on the income statement.

Land, equipment, accounts receivable, supplies, buildings, and cash are assets on the balance sheet; accumulated depreciation is a contra-asset on the balance sheet; notes payable is a liability on the balance sheet; and common stock is a stockholders' equity account on the balance sheet.

E2.7.

	Category	***Financial Statement(s)***
Cash……………………………………………	**A**	**BS**
Accounts payable……………….……………..	**L**	**BS**
Common stock…………………………………	**SE**	**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………………………………	**SE**	**BS**
Dividends payable……………………………..	**L**	**BS**
Accounts receivable……………………………	**A**	**BS**
Short-term debt…………………………………	**L**	**BS**

E2.8.

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

* Although net income appears as a caption on the income statement, it represents an increase to retained earnings, which is a stockholders' equity account.

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

E2.9.

Use the accounting equation to solve for the missing information:

Firm A:

A	=	L	+	PIC	+ (Beg. RE	+	NI	-	DIV	=	End. RE)
$420,000	**=**	**$215,000**	**+**	**$75,000**	**+ ($78,000**	**+**	**?**	**-**	**$50,000**	**=**	**?)**

In this case, the ending balance of retained earnings must be determined first:
$420,000 = $215,000 + $75,000 + End. RE.
Retained earnings, 12/31/13 = **$130,000**

Once the ending balance of retained earnings is known, net income can be determined:
$78,000 + NI – $50,000 = $130,000
Net income for 2013 = **$102,000**

Firm B:

A	=	L	+	PIC	+ (Beg. RE	+	NI	-	DIV	=	End. RE)
$540,000	**=**	**$145,000**	**+**	**?**	**+ (?**	**+**	**$83,000**	**-**	**$19,000**	**=**	**$310,000)**

$540,000 = $145,000 + PIC + $310,000
Paid-in capital, 12/31/13 = **$85,000**

Beg. RE + $83,000 - $19,000 = $310,000
Retained earnings, 1/1/13 = **$246,000**

Firm C:

A	=	L	+	PIC	+	(Beg. RE	+	NI	-	DIV	=	End. RE)
$325,000	**=**	**?**	**+**	**$40,000**	**+**	**($42,000**	**+**	**$113,000**	**-**	**$65,000**	**=**	**?)**

In this case, the ending balance of retained earnings must be determined first:
$42,000 + $113,000 - $65,000 = End. RE
Retained earnings, 12/31/13 = **$90,000**

Once the ending balance of retained earnings is known, liabilities can be determined:
$325,000 = L + $40,000 + $90,000
Total liabilities, 12/31/13 = **$195,000**

E2.10.

Use the accounting equation to solve for the missing information:

Firm A:

A	=	L	+	PIC	+	(Beg. RE	+	NI	-	DIV	=	End. RE)
$?	**=**	**$160,000**	**+**	**$110,000**	**+**	**($100,000**	**+**	**136,000**	**-**	**$24,000**	**=**	**?)**

In this case, the ending balance of retained earnings must be determined first:
$100,000 + $136,000 - $24,000 = End. RE.
Retained earnings, 12/31/13 = **$212,000**

Once the ending balance of retained earnings is known, total assets can be determ
A = $160,000 + $110,000 + $212,000
Total assets, 12/31/13 = **$482,000**

Firm B:

A	=	L	+	PIC	+	(Beg. RE	+	NI	-	DIV	=	End. RE)
$870,000	**=**	**?**	**+**	**$118,000**	**+**	**($248,000**	**+**	**$220,000**	**-**	**?**	**=**	**$372,000)**

$870,000 = L + $118,000 + $372,000
Total liabilities, 12/31/13 = **$380,000**

$248,000 + $220,000 - DIV = $372,000
Dividends declared and paid during 2013 = **$96,000**

Firm C:

A	=	L	+	PIC	+	(Beg. RE	+	NI	-	DIV	=	End. RE)
$310,000	**=**	**$150,000**	**+**	**$90,000**	**+**	**(?**	**+**	**$51,000**	**-**	**$33,000**	**=**	**?)**

In this case, the ending balance of retained earnings must be determined first:
$310,000 = $150,000 + $90,000 + End. RE
Retained earnings, 12/31/13 = **$70,000**

Once the ending balance of retained earnings is known, the beginning balance of retained earnings can be determined:
Beg. RE + $51,000 - $33,000 = $70,000
Retained earnings, 1/1/13 = **$52,000**

E2.11.

Prepare the retained earnings portion of a statement of changes in stockholders' equity for the year ended December 31, 2013:

Retained Earnings, December 31, 2012…………………………………	$ 311,800
Less: Net loss for the year ended December 31, 2013…………………..	(4,700)
Less: Dividends declared and paid in 2013…..………………………….	(18,500)
Retained Earnings, December 31, 2013…………………………………	**$288,600**

E2.12.

Retained Earnings, December 31, 2012……………………………….…	?
Less: Net income for the year ended December 31, 2013………………..	45,200
Less: Dividends declared and paid in 2013…..…………………………..	(9,000)
Retained Earnings, December 31, 2013………………………………….	$420,600

Solving the model, retained earnings at December 31, 2012 was **$384,400.**

E2.13.

					SE				
	A	**=**	**L**	**+**	**PIC**	**+**	**RE**	
Beginning:	$12,400	=	$7,000	+	$ 0	+	$5,400	
Changes:	?	=	-1,200	+	0	+	3,000	(net income)
							?	(dividends)
Ending:	?	=	?	+	0	+	$6,000	

Solution approach:
*(Remember that **net assets** = Assets - Liabilities = Stockholders' 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).

E2.14.

	A	=	L	+	SE: PIC	+	SE: RE	
Beginning:	?	=	$640,000	+	$ 60,000	+	?	
Changes:	+130,000	=	-36,000	+	?	+	?	(net income or loss)
							-50,000	(dividends)
Ending:	?	=	?	+	$384,000	+	?	($858,000 total SE)

Solution approach:
Ending retained earnings = $858,000 total stockholders' equity - $384,000 paid-in capital = **$474,000.** Ending liabilities = $640,000 beginning liabilities - $36,000 decrease = **$604,000.** Thus, ending assets = $604,000 liabilities + $858,000 stockholders' equity = **$1,462,000.** Beginning assets = $1,462,000 ending assets - $130,000 increase = **$1,332,000.** Beginning retained earnings = $1,332,000 assets - $640,000 liabilities - $60,000 paid-in capital = **$632,000.** 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.	$632,000
Less: Net income or loss for the year	?
Less: Dividends declared and paid during the year	(50,000)
Retained earnings, ending......	$474,000

Solving the model, the net loss of the year = $(108,000).

P2.15. Set up the accounting equation and show the effects of the transactions described. Since total assets must equal total liabilities and stockholders' equity, the unadjusted stockholders' equity can be calculated by subtracting liabilities from the total of the assets given.

					A				=	L	+	SE
	Cash	+	Accounts Receivable	+	Inventory	+	Plant & Equipment	=		Liabilities	+	Stockholders' 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 stockholders' equity represent losses from the sale (or collection) of the non-cash assets.

P2.16.

a. The solution approach is similar to that shown in Problem 2-15. Gains or losses can be calculated for the sale (or collection) of each of Kimber Co.'s non-cash assets, as follows:

		Cash received upon sale or collection of asset		***Gain (loss) recorded and effect on Stockholders' Equity***
Accounts receivable	$125,200 * 88% =	$**110,176**	$125,200 * 12% =	**$(15,024)**
Merchandise inventory . .	$229,400 * 85% =	**194,990**	$229,400 * 15% =	**(34,410)**
Buildings & Equipment . .	BV^ + $80,000 =	**376,000**	Amount above BV =	**80,000**
Land.	Appraised amount =	**130,000**	$130,000 - $102,000 =	**28,000**
Total cash received		**$811,166**	**Net gain**	**$ 58,566**

^ $686,000 - $390,000 accumulated depreciation = $296,000 book value of buildings & equipment.

The $811,166 cash received from the liquidation of non-cash assets would be added to the beginning cash balance of $36,800, and $847,966 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...		$847,966
Accounts payable	$ 93,400	
Notes payable	117,000	
Wages payable (not shown on balance sheet)..........	4,800	
Interest payable (not shown on balance sheet)..........	10,500	
Long-term debt..........	129,600	(355,300)
Total cash available to stockholders..........		**$492,666**

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

Total stockholders' equity (*unadjusted*, from balance sheet)	$449,400
Add: Gain on sale of buildings & equipment	80,000
Add: Gain on sale of land......	28,000
Less: Loss on collection of accounts receivable	(15,024)
Less: Loss on liquidation of merchandise inventory.	(34,410)
Less: Unrecorded wages expense......	(4,800)
Less: Unrecorded interest expense....	(10,500)
Total stockholders' equity, *as adjusted*......	**$492,666**

b.

As shown in the schedule above, total stockholders' 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.

P2.17.

a.

Accounts receivable	$ 33,000
Cash	9,000
Supplies	6,000
Merchandise inventory	31,000
Total current assets	**$ 79,000**

b.

Accounts payable	$ 23,000
Long-term debt	40,000
Common stock	10,000
Retained earnings	59,000
Total liabilities and stockholders' equity	**$132,000**

c.

Sales revenue	$140,000
Cost of goods sold	(90,000)
Gross profit	$ 50,000
Service revenue	20,000
Depreciation expense	(12,000)
Supplies expense	(14,000)
Earnings from operations (operating income)	**$ 44,000**

d.

Earnings from operations (operating income)	$ 44,000
Interest expense	(4,000)
Earnings before taxes	$ 40,000
Income tax expense	(12,000)
Net income	**$ 28,000**

e. $12,000 income tax expense / $40,000 earnings before taxes = **30% average tax rate**

f.

Retained earnings, January 1, 2013	?
Net income for the year	$ 28,000
Dividends declared and paid during the year	(16,000)
Retained earnings, December 31, 2013	$ 59,000

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.

P2.18.

a.

Merchandise inventory	$ 420,000
Accounts receivable	96,000
Cash	72,000
Total current assets	$ 588,000
Less: Accounts payable *	(46,000)
Current assets less current liabilities	**$ 542,000**

* No other current liabilities are included in the problem.

b.

Total current assets	$ 588,000
Land	64,000
Equipment	36,000
Accumulated depreciation	(12,000)
Total assets	**$ 676,000**

c.

Sales revenue	$1,240,000
Cost of goods sold	(880,000)
Gross profit	$ 360,000
Rent expense	(36,000)
Depreciation expense	(6,000)
Earnings from operations (operating income)	**$ 318,000**

d.

Earnings from operations (operating income)	$ 318,000
Interest expense	(18,000)
Earning before taxes	$ 300,000
Income tax expense	(120,000)
Net income	**$ 180,000**

e. $120,000 income tax expense / $300,000 earnings before taxes = **40% average tax rate**

f.

Retained earnings, January 1, 2013	?
Net income for the year	$180,000
Dividends declared and paid during the year	(128,000)
Retained earnings, December 31, 2013	$450,000

Solving the model, the beginning retained earnings balance must have been **$398,000**, because the account balance increased by $52,000 during the year to an ending balance of $450,000.

P2.19.

a.

BREANNA, INC.
Income Statement
For the Year Ended December 31, 2013

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

BREANNA, INC.
Statement of Changes in Stockholders' Equity
For the Year Ended December 31, 2013

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	(12,000)	
Ending balance		35,000
Total stockholders' equity		$125,000

BREANNA, INC.
Balance Sheet
December 31, 2013

Assets:		
Cash	$ 65,000	
Accounts receivable	10,000	
Merchandise inventory	37,000	
Total current assets		$112,000
Equipment	120,000	
Less: Accumulated depreciation	(52,000)	68,000
Total assets		$180,000
Liabilities:		
Accounts payable	$ 15,000	
Long-term debt	40,000	
Total liabilities		$ 55,000
Stockholders' Equity:		
Common stock	$ 90,000	
Retained earnings	35,000	
Total stockholders' equity		$125,000
Total liabilities and stockholders' equity		$180,000

P2.19. ***(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.

P2.20.

a.

SHAE, INC.
Income Statement
For the Year Ended December 31, 2013

Sales	\$450,000
Cost of goods sold	(270,000)
Gross profit	\$180,000
Selling, general, and administrative expenses	(36,000)
Earnings from operations (operating income)	\$144,000
Interest expense	(24,000)
Earnings before taxes	\$120,000
Income tax expense	(42,000)
Net income	\$ 78,000

SHAE, INC.
Statement of Changes in Stockholders' Equity
For the Year Ended December 31, 2013

Paid-in capital:		
Common stock		\$ 105,000
Retained earnings:		
Beginning balance	\$ 64,500	
Net income for the year	78,000	
Less: Dividends declared and paid during the year	(19,500)	
Ending balance		123,000
Total stockholders' equity		\$228,000

P2.20. ***(continued)***

a.

SHAE, INC.
Balance Sheet
December 31, 2013

Assets:		
Cash	$ 96,000	
Accounts receivable	60,000	
Merchandise inventory	132,000	
Total current assets		$288,000
Buildings and equipment	252,000	
Less: Accumulated depreciation	(108,000)	144,000
Total assets		$432,000
Liabilities:		
Accounts payable	$ 45,000	
Accrued liabilities	9,000	
Notes payable (long term)	150,000	
Total liabilities		$204,000
Stockholders' Equity:		
Common stock	$105,000	
Retained earnings	123,000	
Total stockholders' equity		$228,000
Total liabilities and stockholders' equity		$432,000

b. $42,000 income tax expense / $120,000 earnings before taxes = **35% average tax rate.**

c. $24,000 interest expense / $150,000 notes payable (long term) = **16% 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 $150,000. 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 $150,000.

d. $105,000 common stock / 21,000 shares = **$5 per share par value.**

e. $19,500 dividends declared and paid / $78,000 net income = **25%.** This assumes that the board of directors has a policy to pay dividends in proportion to earnings.

P2.21.

		Assets	= Liabilities +	Stockholders' 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	-	-	-

P2.22.

a.

	Assets	= *Liabilities* +	*Stockholder's Equity*
August 1, 2013 totals.......	**$350,000**	**$275,000**	**$ 75,000**
August 3, borrowed $12,000 in cash from the bank …………..	+ 12,000	+ 12,000	0
New totals………………………………………………	$362,000	$287,000	$ 75,000
August 7, bought merchandise inventory valued at $19,000 on account........ ....……….	+19,000	+19,000	0
New totals....	$381,000	$306,000	$ 75,000
August 10, paid $7,000 cash operating expenses	–7,000	0	–7,000
New totals....	$374,000	$306,000	$ 68,000
August 14, received $50,000 in cash from *sales*	+50,000		+50,000
of merchandise that had *cost* $33,000	–33,000	0	– 33,000
New totals....	$391,000	$306,000	$ 85,000
August 17, paid $14,000 owed on accounts payable…..	–14,000	–14,000	0
New totals....	$377,000	$292,000	$ 85,000
August 21, collected $17,000 of accounts receivable…...........	0	0	0
New totals.....	$377,000	$292,000	$ 85,000
August 24, repaid $10,000 to the bank, plus $200 interest........	–10,200	–10,000	–200
New totals.....	$366,800	$282,000	$ 84,800
August 29, paid Stacy-Ann Kelly a $5,000 cash dividend	– 5,000	0	–5,000
August 31, 2013 totals.....	**$361,800** =	**$282,000** +	**$ 79,800**

b. Total revenues were $50,000 (from sales) and total expenses were $40,200 (which included $7,000 of operating expenses, $33,000 of cost of goods sold, and $200 of interest expense). Thus, net income was $9,800 ($50,000 - $40,200).

Alternative calculation: Stockholder's equity increased by $4,800 during the month of August *(see answer to part c)*, even though a $5,000 cash dividend was declared and paid to Stacy-Ann Kelly. Since there were no capital stock transactions during the month, net income was $9,800. ($75,000 beginning stockholder's equity, plus $9,800 net income, minus $5,000 dividends, equals $79,800 ending stockholder's equity.)

c.

	August 1	***August 31***	***Net Change***
Total assets....	$350,000	$361,800	$11,800
Total liabilities	275,000	282,000	7,000
Total stockholder's equity.....	75,000	79,800	4,800

P2.22. ***(continued)***

d. Stacy-Ann Kelly's stockholder's equity *increased* by $17,000 as a result of the sale on August 14th ($50,000 revenue - $33,000 cost of goods sold). Her stockholder's equity *decreased* by $7,000 for the operating expenses recorded on August 10th, by $200 for the interest expense recorded on August 24th, and by $5,000 for the cash dividend recorded on August 29th. In other words, her stockholder'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 instead a distribution of profits to the owners/stockholders of the firm and thus 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).

P2.23.

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 + SE. Total assets can be determined based on items (a), (b), and (c); total stockholders' 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.

P2.23. ***(continued)***

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

P2.24.

EPSICO, INC.
Balance Sheets
December 31, 2013 and 2012

Assets	***2013***	***2012***	**Liabilities**	***2013***	***2012***
Current assets:			Current liabilities:		
Cash	$ 114	$ 90	Note payable	$ 147	$ 120
Accounts receivable	378	360	Accounts payable	369	330
Inventory	723	690	Total current liabilities	$ 516	$ 450
Total current assets	$1,215	$1,140	Long-term debt	$ 180	$ 240
Land	$ 75	$ 75	**Stockholders' Equity**		
Equipment	1,170	1,125	Common stock	$ 600	$ 600
Less: Accum. depreciation	(540)	(480)	Retained earnings	624	570
Total land & equipment	$ 705	$ 720	Total stockholders' equity.	$1,224	$1,170
Total assets	$1,920	$1,860	Total liabilities & stockholders' equity.	$1,920	$1,860

Solution approach:

1. | | |
   |---|---|
   | Retained earnings, 12/31/12 | $570 |
   | Net income for 2013 (given) | 78 |
   | Dividends for 2013 (given) | (24) |
   | Retained earnings, 12/31/13 | $624 |

2. Cash at 12/31/13 is $24 more than at 12/31/12.

3. Cost of equipment at 12/31/13 is $45 more than the balance at 12/31/12.

4. Land balance at 12/31/13 is the same as at 12/31/12. Fair market value is irrelevant.

5. Calculate total current assets, total land and equipment, and total assets.

6. Total assets can then be used for total liabilities and stockholders' equity.

7. Total stockholders' equity is calculated and added to total current liabilities. This amount is subtracted from total liabilities and stockholders' equity to determine long-term debt.

P2.25.

	2011	**2010**
For the years ended November 27 and 28, respectively:		
Net revenues…………………....................................	$4,761,566	**$4,410,649**
Cost of goods sold.....………………..........................	**2,469,327**	2,187,726
Gross profit……………………..................................	2,292,239	2,222,923
Selling, general and administrative expenses................	**1,955,846**	1,841,562
Operating income ……………...…...........................	**336,393**	**381,361**
Interest expense and other expenses, net.......................	133,566	145,763
Income before income taxes……........................………	202,827	**235,598**
Income tax expense………....……...............................	**67,715**	86,152
Net income…………………..........................………	$ 135,112	$ 149,446
As at November 27 and 28, respectively:		
Total assets……..	$3,279,555	**$3,135,249**
Total liabilities...……..…	3,429,384	3,335,077
Total stockholders' deficit..	**(149,829)**	(199,828)

P2.26.

a. ***2011*** ***2010***

Net sales	$108,249	$65,225
Cost of sales	(64,431)	(39,541)
Gross profit	**$ 43,818**	**$ 25,684**
Gross profit/net sales	**40.5%**	**39.4%**

Apple has achieved absolutely amazing sales growth in recent years.

Although the 1.1% increase in the gross profit/net sales ratio during the year ended September 24, 2011 was not terribly significant, it does reflect the continuation of a very positive trend for the company.

For your reference, here is Apple's 5-year trend for these data:

	2011	***2010***	***2009***	***2008***	***2007***
Net sales	$108,249	$65,225	$42,905	$32,479	$24,006
Cost of sales	(64,431)	(39,541)	(25,683)	(21,334)	(15,852)
Gross profit	$ 43,818	$ 25,684	$17,222	$11,145	$ 8,154
Gross profit/net sales	40.5%	39.4%	40.1%	34.3%	34.0%

b.

	2011	***2010***
Gross profit (from part *a* above)	$43,818	$25,684
Research and development expenses	2,429	1,782
Selling, general, and administrative expenses	7,599	5,517
Operating income	**$33,790**	**$18,385**
Operating income/net sales	**31.2%**	**28.2%**

The change in operating income as a percentage of net sales during the fiscal year ended on September 24, 2011 would be considered to be quite significant by most financial analysts particularly if this trend were to continue in future years.

c.

	2011	***2010***
Operating income (from part *b* above)	$33,790	$18,385
Other income, net	**415**	155
Income before taxes	**$34,205**	**$18,540**
Provision for income taxes	(8,283)	**(4,527)**
Net income	$25,922	$14,013

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.

C2.27.

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, 2013. Also shown is a partially completed comparative balance sheet as of December 31, 2013 and 2012.

MARSTORE, INC.
Statement of Cash Flows
For the Year Ended December 31, 2013

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	(6,000)	
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	(5,000)	
Net cash used by financing activities		$(7,000)
Increase in cash for the year		$20,000

MARSTORE, INC.
Balance Sheets
December 31, 2013 and 2012

	2013	***2012***		***2013***	***2012***
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 depreciation…………..	(13,000)	______	Retained earnings……..	______	______
			Total s'holders' equity	$ ______	______
Net store fixtures………..	$______	$______			
Total assets………………	$______	$______	Total liabilities and s'holders' equity……	$ ______	$______

TAKE-HOME QUIZ —CHAPTER 2 ***(continued)***

1. Complete the balance sheets for Marstore, Inc., at December 31, 2013 and 2012. Identify your strategy by listing, in general, the sequence of steps you used to find the unknown amounts.

2. Does the amount shown on the balance sheet for Net Store Fixtures represent the current fair market value of the store fixtures? Explain your answer.

3. Prepare a Statement of Changes in Retained Earnings for the year ended December 31, 2013.

TAKE-HOME QUIZ KEY—CHAPTER 2

1. • 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 2013 the balance was $31,000.

   • Based on total assets and total liabilities at the beginning and end of the year, determine total stockholders' equity at each date.

   • Using total stockholders' equity at the end of 2012, 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, 2013 and 2012

	2013	***2012***		***2013***	***2012***
Current assets:					
Cash……………………	$37,000	$17,000	Accounts payable……..	$12,000	$18,000
Accounts receivable……	31,000	39,000	Long-term debt……….	18,000	20,000
Total current assets….	$68,000	$56,000	Total liabilities………..	$30,000	$38,000
Store fixtures…………..	$28,000	$24,000	Common stock………..	$20,000	$20,000
Less: Accumulated			Retained earnings…….	33,000	15,000
depreciation…………	(13,000)	(7,000)	Total s'holders' equity..	$53,000	$35,000
Net store fixtures………	$15,000	$17,000	Total liabilities and		
Total assets…………….	$83,000	$73,000	s'holders' equity…...	$83,000	$73,000

2. 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."

3. Retained earnings, 12/31/12.. $15,000
   Add: Net income for the year.. 23,000
   Less: Dividends declared and paid .... (5,000)
   Retained earnings, 12/31/13.. $33,000