Accounting - What the Numbers Mean 12th edition Marshall Solutions Manual

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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

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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!

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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
\+ Stockholders' 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.

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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, certain treasury stock transactions, 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.

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SOLUTIONS:

M2.1.

	A	=	L	+	SE	
Beginning:	$96,000	=	$54,000	+	?	
Changes:		=			+16,000	net income (increase to retained earnings)
					-4,000	dividends (decrease to retained earnings)
Ending:		=		+	?	

Solution approach:
Beginning stockholders' equity = $96,000 - $54,000 = **$42,000**. 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 = $42,000 + $16,000 - $4,000 = **$54,000**.

M2.2.

	SE	
Beginning:	$246,000	
Changes:	+30,000	common stock issued at par value (increase to paid-in capital)
	+36,000	net income (increase to retained earnings)
	-9,000	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. $246,000 + $30,000 + $36,000 - $9,000 = **$303,000.**

M2.3.

Net sales	$250,000		
Cost of goods sold	?	=	150,000
Gross profit	$100,000		
Selling, general, and administrative expenses	44,000		
Income from operations	?	=	56,000
Interest expense	?	=	6,000
Income before taxes	$?	=	50,000
Income tax expense	10,000		
Net income	$ 40,000		

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) $250,000 - $100,000 = **$150,000** cost of goods sold. (2) $100,000 - $44,000 = **$56,000** income from operations. (3) $40,000 + $10,000 = **$50,000** income before taxes. (4) $56,000 - $50,000 = **$6,000** interest expense

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M2.4.

Net sales	$?	**= 300,000** (4)
Cost of goods sold	120,000	
Gross profit	$?	**= 180,000** (3)
Selling, general, and administrative expenses	66,000	
Income from operations	114,000	
Interest expense	18,000	
Income before taxes	$?	**= 96,000** (1)
Income tax expense	24,000	
Net income	$?	**= 72,000** (2)

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) $114,000 - $18,000 = **$96,000** income before taxes. (2) $96,000 - $24,000 = **$72,000** net income. (3) $114,000 + $66,000 = **$180,000** gross profit. (4) $180,000 + $120,000 = **$300,000** 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.

Financial

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	Category	*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 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:

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Firm A:

A	=	L	+	PIC	+ (Beg. RE	+	NI	-	DIV	=	End. RE)
$210,000	=	$108,000	+	$37,000	+ ($39,000	+	?	-	$25,000	=	?)

In this case, the ending balance of retained earnings must be determined first:
$210,000 = $108,000 + $37,000 + End. RE
Retained earnings, 12/31/19 = **$65,000**

Once the ending balance of retained earnings is known, net income can be determined:
$39,000 + NI – $25,000 = $65,000
Net income for 2019 = **$51,000**

Firm B:

A	=	L	+	PIC	+ (Beg. RE	+	NI	-	DIV	=	End. RE)
$270,000	=	$72,000	+	?	+ (?	+	$41,000	-	$9,000	=	$155,000)

$270,000 = $72,000 + PIC + $155,000
Paid-in capital, 12/31/19 = **$43,000**

Beg. RE + $41,000 - $9,000 = $155,000
Retained earnings, 1/1/19 = **$123,000**

Firm C:

A	=	L	+	PIC	+ (Beg. RE	+	NI	-	DIV	=	End. RE)
$162,000	=	?	+	$20,000	+ ($21,000	+	$56,000	-	$32,000	=	?)

In this case, the ending balance of retained earnings must be determined first:
$21,000 + $56,000 - $32,000 = End. RE
Retained earnings, 12/31/19 = **$45,000**

Once the ending balance of retained earnings is known, liabilities can be determined:
$162,000 = L + $20,000 + $45,000
Total liabilities, 12/31/19 = **$97,000**

E2.10.

Use the accounting equation to solve for the missing information:

Firm A:

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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, 12/31/19 = **$212,000**

Once the ending balance of retained earnings is known, total assets can be determined:
A = $160,000 + $110,000 + $212,000
Total assets, 12/31/19 = **$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, 12/31/19 = **$380,000**

$248,000 + $220,000 - DIV = $372,000
Dividends declared and paid during 2019 = **$96,000**

Firm C:

A = L + PIC + (Beg. RE + NI - DIV = End. RE)
$310,000 = $150,000 + $90,000 + (? + $50,000 - $32,000 = ?)

In this case, the ending balance of retained earnings must be determined first:
$310,000 = $150,000 + $90,000 + End. RE
Retained earnings, 12/31/19 = **$70,000**

Once the ending balance of retained earnings is known, the beginning balance of retained earnings can be determined:
Beg. RE + $50,000 - $32,000 = $70,000
Retained earnings, 1/1/19 = **$52,000**

E2.11.

Prepare the retained earnings portion of a statement of changes in stockholders' equity for the year ended December 31, 2019:

Retained Earnings, December 31, 2018..... $ 623,600

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Less: Net loss for the year ended December 31, 2019……..	(9,400)
Less: Dividends declared and paid in 2019…..…….	(37,000)
Retained Earnings, December 31, 2019……	**$577,200**

E2.12.

Retained Earnings, December 31, 2018……..…	?
Add: Net income for the year ended December 31, 2019……..	67,800
Less: Dividends declared and paid in 2019…..……..	(13,500)
Retained Earnings, December 31, 2019…….	$630,900

Solving the model, retained earnings at December 31, 2018 was **$576,600.**

E2.13.

				SE			
	A	**=**	**L**	**+**	**PIC**	**+**	**RE**
Beginning:	$37,200	=	$21,000	+	$ 0	+	**$16,200**
Changes:	?	=	-3,600	+	0	+	9,000 (net income)
							? (dividends)
Ending:	?	=	?	+	0	+	$18,000

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 = $37,200 - $21,000 = **$16,200**, and ending retained earnings = net assets at the end of the year = $18,000. By looking at the RE column, it can be seen that dividends must have been **$7,200**. Also by looking at the liabilities column, it can be seen that ending liabilities are **$17,400**, and therefore ending assets must be **$35,400**. Thus, total assets decreased by **$1,800** during the year ($37,200 - $35,400), which is equal to the net decrease on the right-hand side of the balance sheet (-$3,600 liabilities + $9,000 net income - $7,200 dividends = $1,800 net decrease in assets).

E2.14.

				SE			
	A	**=**	**L**	**+**	**PIC**	**+**	**RE**
Beginning:	?	=	$160,000	+	$15,000	+	?
Changes:	+33,000	=	-9,000	+	?	+	? (net income or loss)
							-12,000 (dividends)

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Ending: ___?___ = ___?___ + $ 96,000 + ___?___ ($215,000 total SE)

Solution approach:
Ending retained earnings = $215,000 total stockholders' equity - $96,000 paid-in capital = **$119,000.** Ending liabilities = $160,000 beginning liabilities - $9,000 decrease = **$151,000.** Thus, ending assets = $151,000 liabilities + $215,000 stockholders' equity = **$366,000.** Beginning assets = $366,000 ending assets - $33,000 increase = **$333,000.** Beginning retained earnings = $333,000 assets - $160,000 liabilities - $15,000 paid-in capital = **$158,000.** 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. $158,000
Less: Net income or loss for the year .... ?
Less: Dividends declared and paid during the year ... . (12,000)
Retained earnings, ending..... ....$119,000

Solving the model, the net loss of the year = $(27,000).

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	$ 45,600	+ 228,400	+ 122,800	+ 530,000	=	611,200	+	315,600
Collection of accounts receivable	+216,980	-228,400						-11,420
Inventory liquidation	+98,240		-122,800					-24,560
Sale of plant & equipment	+380,000			-530,000				-150,000
Payment of liabilities	-611,200					-611,200		0
Balance	$ 129,620	0	0	0		0		$ 129,620

*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

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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	$90,000 * 80% =	**$ 72,000**	$90,000 * 20% =	**$(18,000)**
Merchandise inventory . .	$150,000 * 70% =	**105,000**	$150,000 * 30% =	**(45,000)**
Buildings & Equipment . .	BV^ + $60,000 =	**340,000**	Amount above BV =	**60,000**
Land.	Appraised amount =	**85,000**	$85,000 - $50,000 =	**35,000**
Total cash received		**$602,000**	**Net gain**	**$ 32,000**

^ $400,000 - $120,000 accumulated depreciation = $280,000 book value of buildings & equipment.

The $602,000 cash received from the liquidation of non-cash assets would be added to the beginning cash balance of $30,000, and $632,000 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...		$632,000
Accounts payable	$ 80,000	
Notes payable	110,000	
Wages payable (not shown on balance sheet).....	5,000	
Interest payable (not shown on balance sheet).....	10,000	
Long-term debt.....	130,000	(335,000)
Total cash available to stockholders.....		**$297,000**

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

Total stockholders' equity (*unadjusted*, from balance sheet)	$280,000
Add: Gain on sale of buildings & equipment	60,000
Add: Gain on sale of land.....	35,000
Less: Loss on collection of accounts receivable	(18,000)
Less: Loss on liquidation of merchandise inventory.	(45,000)
Less: Unrecorded wages expense.....	(5,000)
Less: Unrecorded interest expense....	(10,000)
Total stockholders' equity, *as adjusted*.....	**$297,000**

A summary reconciliation is as follows:

Total stockholders' equity (*unadjusted*, from balance sheet)	$280,000
Add: Net gain from liquidation of all assets *(see calculations above)*….	32,000
Less: Unrecorded liabilities for wages and interest……	(15,000)
Total stockholders' equity, *as adjusted*.....	**$297,000**

P2.16. ***(continued)***

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b. As shown in the schedule in part a), 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.	Cash	$ 27,000
	Accounts receivable	99,000
	Supplies	18,000
	Merchandise inventory	93,000
	Total current assets	**$237,000**
b.	Accounts payable	$ 69,000
	Long-term debt	120,000
	Common stock	30,000
	Retained earnings	177,000
	Total liabilities and stockholders' equity	**$396,000**
c.	Net Sales	$420,000
	Cost of goods sold	(270,000)
	Gross profit	$150,000
	Service revenue	60,000
	Depreciation expense	(36,000)
	Supplies expense	(42,000)
	Earnings from operations (operating income)	**$132,000**
d.	Earnings from operations (operating income)	$132,000
	Interest expense	(12,000)
	Earnings before taxes	$120,000
	Income tax expense	(36,000)
	Net income	**$ 84,000**

e. $36,000 income tax expense / $120,000 earnings before taxes = **30% average tax rate**

f.	Retained earnings, January 1, 2019	?
	Net income for the year	$ 84,000
	Dividends declared and paid during the year	(48,000)
	Retained earnings, December 31, 2019	$177,000

Solving the model, the beginning retained earnings balance must have been **$141,000**, because the account balance increased by $36,000 during the year to an ending balance of $177,000.

P2.18.

a.	Cash	$ 20,000

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Accounts receivable	28,000
Merchandise inventory	106,000
Total current assets	$ 154,000
Less: Accounts payable *	(13,000)
Current assets less current liabilities	**$ 141,000**

* No other current liabilities are included in the problem.

b.

Total current assets	$ 154,000
Land	19,000
Equipment	10,000
Accumulated depreciation	(3,000)
Total assets	**$ 180,000**

c.

Net Sales	$ 310,000
Cost of goods sold	(220,000)
Gross profit	$ 90,000
Rent expense	(9,000)
Depreciation expense	(1,500)
Earnings from operations (operating income)	**$ 79,500**

d.

Earnings from operations (operating income)	$ 79,500
Interest expense	(4,500)
Earning before taxes	$ 75,000
Income tax expense	(30,000)
Net income	**$ 45,000**

e. $30,000 income tax expense / $75,000 earnings before taxes = **40% average tax rate**

f.

Retained earnings, January 1, 2019	?
Net income for the year	$ 45,000
Dividends declared and paid during the year	(32,000)
Retained earnings, December 31, 2019	$122,000

Solving the model, the beginning retained earnings balance must have been **$109,000**, because the account balance increased by $13,000 during the year to an ending balance of $122,000.

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P2.19.

a.

BREANNA, INC.
Income Statement
For the Year Ended December 31, 2019

Net Sales	$800,000
Cost of goods sold	(512,000)
Gross profit	$288,000
Selling, general, and administrative expenses	(136,000)
Earnings from operations (operating income)	$152,000
Interest expense	(24,000)
Earnings before taxes	$128,000
Income tax expense	(32,000)
Net income	$ 96,000

BREANNA, INC.
Statement of Changes in Stockholders' Equity
For the Year Ended December 31, 2019

Paid-in capital:		
Common stock		$360,000
Retained earnings:		
Beginning balance	$ 92,000	
Net income for the year	96,000	
Less: Dividends declared and paid during the year	(48,000)	
Ending balance		140,000
Total stockholders' equity		$500,000

BREANNA, INC.
Balance Sheet
December 31, 2019

Assets:		
Cash	$260,000	
Accounts receivable	40,000	
Merchandise inventory	148,000	
Total current assets		$448,000
Equipment	480,000	
Less: Accumulated depreciation	(208,000)	272,000
Total assets		$720,000
Liabilities:		
Accounts payable	$ 60,000	
Long-term debt	160,000	
Total liabilities		$220,000
Stockholders' Equity:		
Common stock	$360,000	
Retained earnings	140,000	
Total stockholders' equity		$500,000
Total liabilities and stockholders' equity		$720,000

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P2.19. ***(continued)***

b. $32,000 income tax expense / $128,000 earnings before taxes = **25% average tax rate.**

c. $24,000 interest expense / $160,000 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. $360,000 common stock / 36,000 shares = **$10 per share par value.**

e. $48,000 dividends declared and paid / $96,000 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, 2019

Net Sales	$300,000
Cost of goods sold	(180,000)
Gross profit	$120,000
Selling, general, and administrative expenses	(24,000)
Earnings from operations (operating income)	$ 96,000
Interest expense	(16,000)
Earnings before taxes	$ 80,000
Income tax expense	(28,000)
Net income	$ 52,000

SHAE, INC.
Statement of Changes in Stockholders' Equity
For the Year Ended December 31, 2019

Paid-in capital:		
Common stock		$ 70,000
Retained earnings:		
Beginning balance	$ 43,000	
Net income for the year	52,000	
Less: Dividends declared and paid during the year	(13,000)	
Ending balance		82,000
Total stockholders' equity		$152,000

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

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a.

SHAE, INC.
Balance Sheet
December 31, 2019

Assets:		
Cash	$ 64,000	
Accounts receivable	40,000	
Merchandise inventory	88,000	
Total current assets		$192,000
Buildings and equipment	168,000	
Less: Accumulated depreciation	(72,000)	96,000
Total assets		$288,000
Liabilities:		
Accounts payable	$ 30,000	
Accrued liabilities	6,000	
Notes payable (long term)	100,000	
Total liabilities		$136,000
Stockholders' Equity:		
Common stock	$ 70,000	
Retained earnings	82,000	
Total stockholders' equity		$152,000
Total liabilities and stockholders' equity		$288,000

b. $28,000 income tax expense / $80,000 earnings before taxes = **35% average tax rate.**

c. $16,000 interest expense / $100,000 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 $100,000. 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 $100,000.

d. $70,000 common stock / 14,000 shares = **$5 per share par value.**

e. $13,000 dividends declared and paid / $52,000 net income = **25%.** This assumes that the board of directors has a policy to pay dividends in proportion to earnings.

P2.21. **Stockholders'**

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		Assets	= Liabilities +	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, 2019 totals	**$700,000**	**$500,000**	**$200,000**
August 3, borrowed $50,000 in cash from the bank	+ 50,000	+ 50,000	0
New totals	$750,000	$550,000	$220,000
August 7, bought merchandise inventory valued at $75,000 on account	+75,000	+75,000	0
New totals	$825,000	$625,000	$200,000
August 10, paid $25,000 cash operating expenses	–25,000	0	–25,000
New totals	$800,000	$625,000	$175,000
August 14, received $120,000 in cash from *sales*	+120,000		+120,000
of merchandise that had *cost* $72,000	–72,000	0	– 72,000
New totals	$848,000	$625,000	$223,000
August 17, paid $60,000 owed on accounts payable	–60,000	–60,000	0
New totals	$788,000	$565,000	$223,000
August 21, collected $44,000 of accounts receivable	0	0	0
New totals	$788,000	$565,000	$223,000
August 24, repaid $10,000 to the bank, plus $1,000 interest	–31,000	–30,000	–1,000
New totals	$757,000	$535,000	$222,000
August 29, paid Rudy Gandolfi a $15,000 cash dividend	– 15,000	0	–15,000
August 31, 2019 totals	**$742,000**	**= $535,000 +**	**$207,000**

b. Total revenues were $120,000 (from sales) and total expenses were $98,000 (which included $72,000 of cost of goods sold, $25,000 of operating expenses, and $1,000 of interest expense). Thus, net income was $22,000 ($120,000 - $98,000).

Alternative calculation: Stockholder's equity increased by $7,000 during the month of August *(see answer to part c)*, even though a $15,000 cash dividend was declared and paid to Rudy Gandolfi. Since there were no capital stock transactions during the month, net income was $22,000. ($200,000 beginning stockholder's equity, plus $22,000 net income, minus $15,000 dividends, equals $207,000 ending stockholder's equity.)

c.

	August 1	*August 31*	*Net Change*
Total assets	$700,000	$742,000	$42,000
Total liabilities	500,000	535,000	35,000
Total stockholder's equity	200,000	207,000	7,000

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

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d. Rudy Gandolfi's stockholder's equity *increased* by $48,000 as a result of the sale on August 14th ($120,000 revenue - $72,000 cost of goods sold). His stockholder's equity *decreased* by $25,000 for the operating expenses recorded on August 10th, by $1,000 for the interest expense recorded on August 24th, and by $15,000 for the cash dividend recorded on August 29th. In other words, his 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)***

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Assets:			**Liabilities and Stockholders' Equity:**	
Cash		$ 3,500	Note payable	$ 12,000
Accounts receivable		17,000	Accounts payable	16,000
Land		55,000	Total liabilities	$ 28,000
Automobile	$90,000		Common stock	40,000
Less: Accumulated depreciation	(30,000)	60,000	Retained earnings	67,500
			Total stockholders' equity	107,500
Total assets		$135,500	Total liab.and stockholders' equity	$135,500

P2.24.

EPSICO, INC.
Balance Sheets
December 31, 2019 and 2018
(Amounts in thousands)

Assets	***2019***	***2018***	**Liabilities**	***2019***	***2018***
Current assets:			Current liabilities:		
Cash	**$ 456**	$ 360	Note payable	$ 588	$ 480
Accounts receivable	1,512	1,440	Accounts payable	1,476	1,320
Inventory	2,892	2,760	Total current liabilities	$2,064	$1,800
Total current assets	**$4,860**	$4,560	Long-term debt	**$ 720**	$ 960
Land	**$ 300**	$ 300	**Stockholders' Equity**		
Equipment	**4,680**	4,500	Common stock	$2,400	$2,400
Less: Accum. depreciation	(2,160)	(1,920)	Retained earnings	**2,496**	2,280
Total land & equipment	**$2,820**	$2,880	Total stockholders' equity	**$4,896**	$4,680
Total assets	**$7,680**	$7,440	Total liabilities & stockholders' equity	**$7,680**	$7,440

Solution approach:

1. Retained earnings, 12/31/18 $2,280
   Net income for 2019 (given) 312
   Dividends for 2019 (given) (96)
   Retained earnings, 12/31/19 **$2,496**

2. Cash at 12/31/19 is $96 more than at 12/31/18.

3. Cost of equipment at 12/31/19 is $180 more than the balance at 12/31/18.

4. Land balance at 12/31/19 is the same as at 12/31/18. 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.

2017 **2016**

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For the years ended November 26 and 27, respectively:		
Net revenues	$4,904,030	**$4,552,739**
Cost of goods sold	**2,341,301**	2,223,727
Gross profit	2,562,729	2,329,012
Selling, general and administrative expenses	**2,095,560**	1,866,805*
Operating income	**467,169**	**462,207**
Interest expense, and other expenses and losses, net	118,388**	54,947**
Income before income taxes	348,781	**407,260**
Income tax expense	**64,225**	116,051
Net income	$ 284,556	$ 291,209

* Includes $312 of net restructuring charges, so 2016 selling, general and administrative expenses exclusive of these charges = $1,866,493 ($1,866,805 - $312). This is the amount most directly comparable to the S,G&A expenses calculated for 2017 of $2,095,560.

** Includes the following items:

Interest expense	$ 68,603	$ 73,170
Loss on early extinguishment of debt	22,793	---
Other (income) expense	26,992	(18,223)
	118,388	54,947

As at November 30 and 24, respectively:		
Total assets	$3,354,692	**$2,987,096**
Total liabilities	2,525,269	2,395,975
Total stockholders' equity	**829,423*** **	591,121***

*** Includes temporary equity of $127,035 in 2017 and $79,346 in 2016.

P2.26.

a.

	2017	***2016***

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Net sales	$229,234	$215,639
Cost of sales	(141,048)	(131,376)
Gross profit	**$ 88,186**	**$ 84,263**
Gross profit/net sales	**38.5%**	**39.1%**

Apple was able to achieve amazingly high sales growth rates for more than a decade since the introduction of the iPod in 2001, and in subsequent years with the introduction of the iPhone in 2007 and iPad in 2010. The company has now grown to a size and scale of operations where it has become difficult to maintain high sales growth rates on a percentage basis, although in absolute terms the nearly $13.6 billion increase in net sales from 2016 to 2017 is still a remarkable achievement.

The 0.6% decrease in the gross profit/net sales ratio during the year ended September 30, 2017 was not terribly significant. For your reference, here is Apple's 5-year trend for these data:

	2017	***2016***	***2015***	***2014***	***2013***
Net sales	$229,234	$215,639	$233,715	$182,795	$170,910
Cost of sales	(141,048)	(131,376)	(140,089)	(112,258)	(106,606)
Gross profit	$ 88,186	$ 84,263	$ 93,626	$ 70,537	$64,304
Gross profit/net sales	38.5%	39.1%	40.1%	38.6%	37.6%

b.

	2017	***2016***
Gross profit (from part *a* above)	$88,186	$84,263
Research and development expenses	11,581	10,045
Selling, general, and administrative expenses	15,261	14,194
Operating income	**$61,344**	**$60,024**
Operating income/net sales	**26.8%**	**27.8%**

Operating income as a percentage of net sales decreased slightly (by only 1.0%) during the fiscal year ended on September 30, 2017, which reflects well on Apple's consistency of operations and predictability of earnings.

c.

	2017	***2016***
Operating income (from part *b* above)	$61,344	$60,024
Other income, net	**2,745**	1,348
Income before taxes	**$64,089**	**$61,372**
Provision for income taxes	(15,738)	**(15,685)**
Net income	$48,351	$45,687

Solution approach: The "Income before taxes" line has been added to emphasize the importance of understanding the difference between operating items 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,

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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 may be employed 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_____**

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

1. Complete the balance sheets for Marstore, Inc., at December 31, 2019 and 2018. 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, 2019.

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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 2019 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 2018, 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, 2019 and 2018

	2019	***2018***		***2019***	***2018***
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."

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3.	Retained earnings, 12/31/18	$15,000
	Add: Net income for the year	23,000
	Less: Dividends declared and paid	(5,000)
	Retained earnings, 12/31/19	$33,000

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