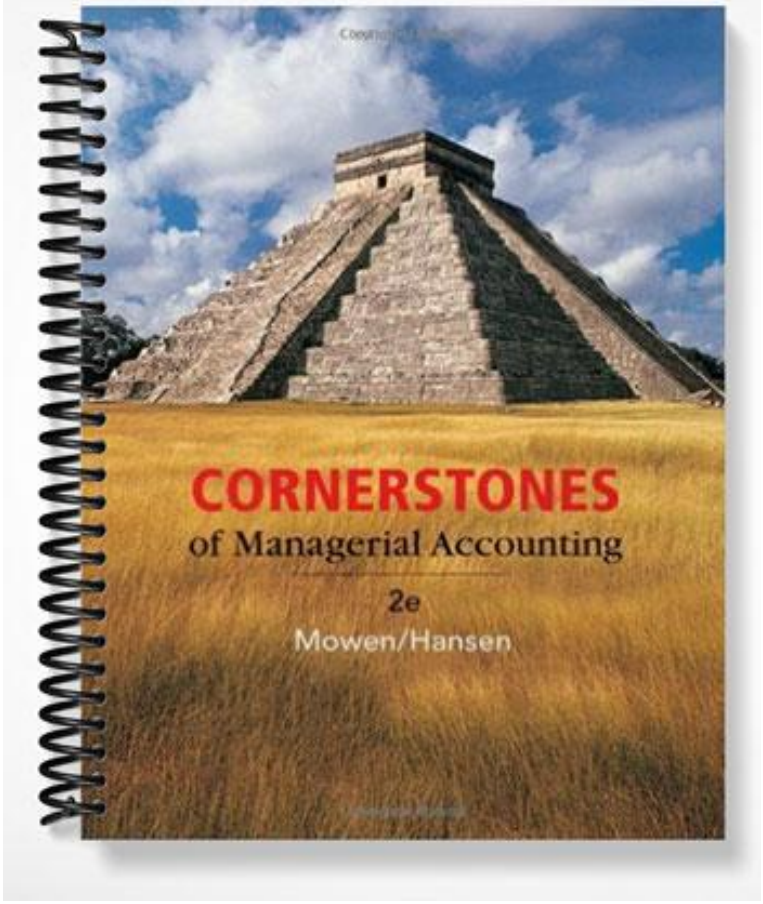
SOLUTIONS MANUAL



CHAPTER 2
BASIC MANAGEMENT ACCOUNTING CONCEPTS

DISCUSSION QUESTIONS

1. A cost object is something for which you want to know the cost. For example, a cost object may be the human resources department of a company. The costs related to that cost object might include salaries of employees of that department, telephone costs for that department, and depreciation on office equipment. Another example is a customer group of a company. Atlantic City and Las Vegas casinos routinely treat heavy gamblers to free rooms, food, and drink. The casinos know the benefits yielded by these high rollers and need to know the costs of keeping them happy, such as the opportunity cost of lost revenue from the rooms, the cost of the food, and so on.

2. Accumulating costs is the way that costs are measured and tracked. Assigning costs is linking costs to some cost object. For example, a company accumulates or tracks costs by entering them into the chart of accounts. Direct materials would be entered into the materials account; direct labor would be entered into the direct labor account. Then, these costs are assigned to units of product.

3. A direct cost is one that can be traced to the cost object, typically by physical observation. An indirect cost cannot be traced to the cost object. The same cost can be direct for one purpose and indirect for another. For example, the salaries paid to purchasing department employees in a factory are a direct cost to the purchasing department but an indirect cost (overhead) to units of product.

4. The cost of goods manufactured is the sum of direct materials, direct labor, and overhead used in producing the units completed in a factory.

5. Prime cost is the sum of direct materials and direct labor. Conversion cost is the sum of direct labor and overhead. Total product cost consists of direct materials, direct labor, and overhead. This is not equal to the sum of prime cost and conversion cost because then direct labor would be double counted.

6. A tangible product is one you can see, feel, and take with you. It is a product, such as a tube of toothpaste, a car, or an orange. An intangible product is a service. For example, the dental hygienist who cleans your teeth provides a service.

7. Cost is the amount of cash or cash equivalent sacrificed for goods and/or services that are expected to bring a current or future benefit to the organization. An expense is an expired cost; the benefit has been used up.

8. A period cost is one that is expensed immediately, rather than being inventoried like a product cost.

9. Allocation means that an indirect cost is assigned to a cost object using a reasonable and convenient method. Since no causal relationship exists, allocating indirect costs is based on convenience or some assumed linkage.

10. Overhead includes all product costs other than direct materials and direct labor. It is because the remaining manufacturing (product) costs are gathered into one category that overhead is often thought of as a “catch all.”

11. Direct materials purchases are first entered into the materials inventory. They may or may not be used during the month. Only when the materials are withdrawn from inventory for use in production are they known as “direct materials.”

12. The percentage column on the income statement gives some insight into the relative spending on the various expense categories. These percentages can then be compared with those of other firms in the same industry to see if the company’s spending appears to be in line or out of line with the experiences of others.

13. The income statement for a manufacturing firm includes the cost of goods sold which is the sum of direct materials, direct labor, and overhead. The income statement for a service firm includes the cost of services sold. These costs may or may not be inventoried.

14. Marketing or selling cost is the cost of selling and delivering products and services. Examples include free samples, advertising, sponsorship of sporting events, commissions on sales, and the depreciation on delivery trucks (such as Coca-Cola or Pepsi trucks).

15. The cost of goods manufactured is the cost of direct materials, direct labor, and overhead for the units produced (completed) during a time period. The cost of goods sold is the cost of direct materials, direct labor, and overhead for the units sold during a time period. The number of units produced is not necessarily equal to the number of units sold during a period. For example, a company may produce 1,000 pairs of jeans in a month but sell only 900 pairs.

MULTIPLE-CHOICE EXERCISES

2–1 **c**

2–2 **d**

2–3 **d** **(Conversion cost per unit = $6 + $10 = $16)**

2–4 **b** **Sales = $75 × 1,000 units = $75,000**
Production cost per unit = $15 + $6 + $10 = $31
Cost of goods sold = $31 × 1,000 = $31,000
Gross profit = $75,000 – $31,000 = $44,000

2–5 **e**

2–6 **c**

2–7 **d**

2–8 **c**

2–9 **a**

2–10 **b**

2–11 **d** **Prime cost per unit = $1.50 + $0.75 = $2.25**

2–12 **a**

2–13 **a** **Total prime cost = $50,000 + $20,000 = $70,000**
Prime cost per unit = $70,000/10,000 = $7.00

2–14 **c** **Total conversion cost = $20,000 + $130,000 = $150,000**
Conversion cost per unit = $150,000/10,000 = $15.00

2–15 **b** **Cost of goods sold = $50,000 + $20,000 + $130,000 = $200,000**
Cost of goods sold per unit = $200,000/10,000 = $20.00

2–16 **b** **Sales = $31 × 10,000 = $310,000**
Gross margin = $310,000 – $200,000 = $110,000
Gross margin per unit = $110,000/10,000 = $11.00

2–17 **c** **Period expense = $40,000 + $36,000 = $76,000**

2–18 **a** **Operating income = $310,000 – $200,000 – $76,000 = $34,000**

EXERCISES

Exercise 2–19

1.

Costs	Salaries	Commissions
Derek's salary	$25,000	
Lawanna's salary	30,000	
Derek's commissions		$6,000
Lawanna's commissions		1,500
Total	$55,000	$7,500

2. All of Derek's time is spent selling, so all of his salary cost is selling cost. Lawanna spends two-thirds of her time selling, so $20,000 ($30,000 × 2/3) of her salary is selling cost. The remainder is administrative cost. All commissions are selling costs.

	Selling Costs	Administrative Costs
Derek's salary	$25,000	
Lawanna's salary	20,000	$10,000
Derek's commissions	6,000	
Lawanna's commissions	1,500	
Total	$52,500	$10,000

Exercise 2–20

1. **The two products that Holmes sells are playhouses and the installation of playhouses. The playhouse itself is a tangible product, and the installation is a service.**
2. **Holmes could assign the costs to production and to installation, but if the installation is a minor part of its business, it probably does not go to the trouble.**
3. **The opportunity cost of the installation process is the loss of the playhouses that could have been built by the two workers who were pulled off the production line.**

Exercise 2–21

a. Salary of cell supervisor—Direct
b. Power to heat and cool the plant in which the cell is located—Indirect
c. Materials used to produce the motors—Direct
d. Maintenance for the cell's equipment—Indirect
e. Labor used to produce motors—Direct
f. Cafeteria that services the plant's employees—Indirect
g. Depreciation on the plant—Indirect
h. Depreciation on equipment used to produce the motors—Direct
i. Ordering costs for materials used in production—Indirect
j. Engineering support—Indirect
k. Cost of maintaining the plant and grounds—Indirect
l. Cost of the plant's personnel office—Indirect
m. Property tax on the plant and land—Indirect

Exercise 2–22

1. Direct materials – Product cost
   Direct labor – Product cost
   Overhead – Product cost
   Selling expense – Period cost

2.

Direct materials	$ 5,000
Direct labor	2,500
Overhead	3,700
Total product cost	$11,200

3. Unit product cost = $11,200/8,000 = $1.40

Exercise 2–23

	Product Cost			Period Cost	
Costs	Direct Materials	Direct Labor	Overhead	Selling Expense	Administrative Expense
Direct materials	$216,000				
Factory rent			$ 24,000		
Direct labor		$120,000			
Factory utilities			6,300		
Supervision in the factory			50,000		
Indirect labor in the factory			30,000		
Depreciation on factory equipment			9,000		
Sales commissions				$ 27,000	
Sales salaries				65,000	
Advertising				37,000	
Depreciation on the headquarters building					$ 10,000
Salary of the corporate receptionist					30,000
Other administrative costs					175,000
Salary of the factory receptionist			28,000		
Totals	$216,000	$120,000	$147,300	$129,000	$215,000

2. Direct materials $216,000
   Direct labor 120,000
   Overhead 147,300
   Total product cost $483,300

3. Total period cost = $129,000 + $215,000 = $344,000

4. Unit product cost = $483,300/30,000 = $16.11

Exercise 2–24

Costs	Direct Materials	Direct Labor	Overhead
Jars	X		
Sugar	X		
Fruit	X		
Pectin	X		
Boxes	X		
Depreciation on the factory building			X
Cooking equipment operators' wages		X	
Filling equipment operators' wages		X	
Packers' wages		X	
Janitors' wages			X
Receptionist's wages			X
Telephone			X
Utilities			X
Rental of Santa Claus suit			X
Supervisory labor salaries			X
Insurance on factory building			X
Depreciation on factory equipment			X
Oil to lubricate filling equipment			X

Exercise 2–25

1. Direct materials $560,000
   Direct labor 96,000
   Overhead 220,000
   Total product cost $876,000

2. Product cost per unit = Total product cost/Number of units
   = $876,000/10,000 = $87.60

Exercise 2–26

1.	Direct materials	$560,000
	Direct labor	96,000
	Total prime cost	$656,000

2. Prime cost per unit = Total prime cost/Number of units
   = $656,000/10,000 = $65.60

3.	Direct labor	$ 96,000
	Overhead	220,000
	Total conversion cost	$316,000

4. Conversion cost per unit = Total conversion cost/Number of units
   = $316,000/10,000 = $31.60

Exercise 2–27

1.	Beginning inventory, January 1	150
	Purchases	1,000
	Ending inventory, January 31	(614)
	Calendars given out	536

2. Cost of calendars given out = 536 × $0.50 = $268

3. Cost of ending inventory = 614 × $0.50 = $307

Exercise 2–28

Materials inventory, July 1	$ 2,300
Materials purchases in July	12,700
Materials inventory, July 31	(4,900)
Direct materials used in July	$10,100

Exercise 2–29

1. Finished goods inventory, January 1	1,430
Units completed during the year	114,000
Finished goods inventory, December 31	(2,650)
Units sold	112,780
2. Units sold	112,780
× Unit cost	× $15
Cost of goods sold	$1,691,700

Exercise 2–30

1. Materials inventory, March 1	$ 8,600
Materials purchases in March	14,000
Materials inventory, March 31	(2,300)
Direct materials used in March	$20,300
2. Direct materials	$20,300
Direct labor	20,000
Overhead	36,000
Total manufacturing cost	$76,300
3. Total manufacturing cost	$76,300
Add: Work in process, March 1	1,700
Less: Work in process, March 31	(9,000)
Cost of goods manufactured	$69,000

Exercise 2–31

Cost of goods manufactured	$69,000*
Add: Finished goods, March 1	7,000
Less: Finished goods, March 31	(6,500)
Cost of goods sold	$69,500

*** See solution to Exercise 2-30**

Exercise 2–32

Direct materials	**$ 145,000**
Direct labor	**335,000**
Overhead	**670,000**
Cost of goods sold	**$1,150,000**

Note: Because there were no beginning nor ending Work in Process or Finished Goods inventories, no adjustments were made for them in this statement.

Exercise 2–33

1. Sales revenue = Number of units sold × Selling price
= 200,000 × $14
= $2,800,000

2.

Landes Company
Income Statement
For the Past Year

Sales revenue	$2,800,000
Cost of goods sold	1,150,000*
Gross profit	$1,650,000
Less:	
Selling expense	367,000
Administrative expense	415,000
Operating income	$ 868,000

*** See solution to Exercise 2-32**

Exercise 2–34

Landes Company
Income Statement
For the Past Year

	Sales & Expenses	Percent of Sales*
Sales revenue	$2,800,000	100.0
Cost of goods sold	1,150,000	41.1
Gross profit	$1,650,000	58.9
Less:		
Selling expense	367,000	13.1
Administrative expense	415,000	14.8
Operating income	$ 868,000	31.0

*** See solution to Exercise 2-33**
Sales revenue: $2,800,000/$2,800,000 = 1.00 or 100%
Cost of goods sold: $1,150,000/$2,800,000 = 0.4107 = 41.1%
Gross profit: $1,650,000/$2,800,000 = 0.5892 = 58.9%
Selling expense: $367,000/$2,800,000 = 0.131 = 13.1%
Administrative expense: $415,000/$2,800,000 = 0.148 = 14.8%
Operating income: $868,000/$2,800,000 = 0.31 = 31.0%

PROBLEMS

Problem 2–35

1.

Cost	Direct Materials	Direct Labor	Overhead	Selling and Administrative
Hamburger meat	$4,500			
Buns, lettuce, pickles, and onions	800			
Frozen potato strips	1,250			
Wrappers, bags, and condiment packages	600			
Other ingredients	660			
Part-time employees' wages		$7,250		
John Peterson's salary				$3,000
Utilities			$1,500	
Rent			1,800	
Depreciation, cooking equipment and fixtures			600	
Advertising				500
Janitor's wages			520	
Janitorial supplies			150	
Accounting fees				1,500
Taxes				4,250
Total	$7,810	$7,250	$4,570	$9,250

Explanation of Classification

Direct materials include all the food items that go into a burger bag, as well as the condiment packages and the wrappers and bags themselves. These materials go "out the door" in the final product. "Other ingredients" might include the oil to fry the potato strips and grease the frying surface for the hamburgers and the salt for the fries. They are direct materials but could also be classified as overhead because of cost and convenience.

Direct labor consists of the part-time employees who cook food and fill orders.

Overhead consists of all indirect costs associated with the production process. These are utilities, the rent for the building, the depreciation on the equipment and register, and the cost of janitorial fees and supplies.

Problem 2–35 (Concluded)

Selling and administrative expense includes John Peterson's salary, advertising, accounting fees, and taxes.

2. Sales ($3.50 × 10,000)		**$35,000**
Less cost of goods sold:		
Direct materials	**$7,810**	
Direct labor	**7,250**	
Overhead	**4,570**	**19,630**
Gross margin		**$15,370**
Less: Selling and administrative expense		**9,250**
Net income		**$ 6,120**

3. Elena's simplifying assumptions were: (1) all part-time employees are production workers, (2) John Peterson's salary is for selling and administrative functions, (3) all building-related expense as well as depreciation on cooking equipment and fixtures are for production, and (4) all taxes are administrative expense. These make it easy to classify 100% of each expense as product cost or selling and administrative cost. The result is that she does not have to perform studies of the time spent by each employee on producing versus selling burger bags. In addition, it is likely that John Peterson pitches in to help fry burgers or assemble burger bags when things get hectic. Of course, during those times, he is engaged in production—not selling or administration. The cost of determining just exactly how many minutes of each employee's day is spent in production versus selling is probably not worth it. (Remember, accountants charge by the number of hours spent—the more time Elena spends separating costs into categories, the higher her fees.)

For this small business, there is little problem with misclassifying these expenses. Pop's Drive-Thru Burger Heaven is not a publicly traded company, and its income statements do not have to conform to GAAP. Outside use of the statements is confined to government taxing authorities and a bank (if a loan or line of credit is necessary). Elena's accounting works well for those purposes.

Problem 2–36

1. Funerals are intangible products. They are services, cannot be stored, and are connected to the producer (inseparability).

2. Overhead cost per funeral = $250,000/1,000 funerals = $250

Problem 2–36 (Concluded)

3. **Product cost per funeral:**

Direct materials	$2,000
Direct labor	750
Overhead	250
Total product cost	$3,000

4.

Celestial Funeral Home
Income Statement
For the Past Year

Sales		$6,000,000
Less cost of services sold:		
Direct materials	$2,000,000	
Direct labor	750,000	
Overhead	250,000	3,000,000
Gross margin		$3,000,000
Less operating expenses:		
Selling expenses	$ 250,000	
Administrative expenses	375,000	625,000
Operating income		$2,375,000

Problem 2–37

1. **Cost per page for black ink = $25.50/850 pages = $0.03**

   Total owed to Harry by Mary = $0.03 × 500 pages = $15

   Total owed to Harry by Natalie = $0.03 × 1,000 pages = $30

2. **Cost per sheet for paper = $2.50/500 sheets = $0.005**

   Total cost for Mary = 500 pages × ($0.03 + $0.005) = $17.50

   Total cost for Natalie = 1,000 pages × ($0.03 + $0.005) = $35.00

3. **Cost per page for color ink = $31/310 pages = $0.10**

   Number of black ink pages for Natalie = 1,000 × 0.8 = 800

   Number of color ink pages for Natalie = 1,000 × 0.2 = 200

   Total owed to Harry by Natalie = ($0.03 × 800 pages) + ($0.10 × 200) = $44

   Total cost to Natalie = [($0.03 + $0.005) × 800 pages] + [($0.10 + $0.005) × 200 pages] = $49

Problem 2–38

1. Direct materials = $40,000 + $64,000 – $19,800 = $84,200

2.

Direct materials used	$ 84,200
Direct labor	43,500
Overhead	108,750
Total manufacturing cost for July	$236,450
Work in process, July 1	21,000
Work in process, July 31	(32,500)
Cost of goods manufactured	$224,950

3.

Cost of goods manufactured	$224,950
Finished goods inventory, July 1	23,200
Finished good inventory, July 31	(22,100)
Cost of goods sold	$226,050

Problem 2–39

1.

Direct materials	$18
Direct labor	12
Overhead	16
Unit product cost	$46

Total product cost = $46 × 200,000 = $9,200,000

2.

Laworld, Inc.
Income Statement
For Last Year

Sales ($60 × 200,000)	$12,000,000
Cost of goods sold	9,200,000
Gross margin	$ 2,800,000
Less:	
Commissions ($2 × 200,000)	400,000
Fixed selling expense	100,000
Administrative expense	300,000
Operating income	$ 2,000,000

No, we do not need to prepare a statement of cost of goods manufactured because there were no beginning or ending inventories of work in process. As a result, total manufacturing cost is equal to the cost of goods manufactured.

Problem 2–39 (Concluded)

3. **The 10,000 tents in beginning finished goods inventory have a cost of $40, and that is lower than the year's unit product cost of $46. The FIFO assumption says that beginning inventory is sold before current year production. Therefore, the cost of goods sold will be lower than it would be if there were no beginning inventory. This can be seen in the following statement of cost of goods sold.**

Cost of goods manufactured ($46 × 200,000)	$9,200,000
Add: Beginning inventory finished goods ($40 × 10,000)	400,000
Less: Ending inventory finished goods ($46 × 10,000)	(460,000)
Cost of goods sold	$9,140,000

Laworld, Inc.
Revised Income Statement
For Last Year

Sales ($60 × 200,000)	$12,000,000
Cost of goods sold	9,140,000
Gross margin	$ 2,860,000
Less:	
Commissions ($2 × 200,000)	400,000
Fixed selling expense	100,000
Administrative expense	300,000
Operating income	$ 2,060,000

Problem 2–40

1. Direct materials = $3,475 + $15,000 – $9,500 = $8,975

Hayward Company
Statement of Cost of Goods Manufactured
For the Month of May

Direct materials used		$ 8,975
Direct labor		10,500
Overhead:		
Factory supplies	$ 675	
Factory insurance	350	
Factory supervision	2,225	
Material handling	3,750	7,000
Total manufacturing cost for May		$26,475
Work in process, May 1		12,500
Work in process, May 31		(14,250)
Cost of goods manufactured		$24,725

2.

Hayward Company
Statement of Cost of Goods Sold
For the Month of May

Cost of goods manufactured	$24,725
Finished goods inventory, May 1	6,685
Finished goods inventory, May 31	(4,250)
Cost of goods sold	$27,160

Problem 2–41

1.

Beginning inventory of materials	$ 26,300
Purchases of materials	200,000
Less: Ending inventory of materials	(14,250)
Cost of materials used in April	$212,050

2. Prime cost = Cost of materials + Direct labor
= $212,050 + $53,000
= $265,050

3. Conversion cost = Direct labor + Overhead
= $53,000 + $120,000
= $173,000

Problem 2–41 (Concluded)

4. Cost of materials used in April	**$212,050**
Direct labor	**53,000**
Overhead	**120,000**
Cost of services for April	**$385,050**

5.

Confiable Muffler
Income Statement
For the Month of April

Sales	**$500,000**
Cost of services sold	**385,050**
Gross margin	**$114,950**
Less:	
Advertising	**15,000**
Franchise fees (3 × $3,000)	**9,000**
Operating income	**$ 90,950**

6. Remington Company is a manufacturer. It produces mufflers, a tangible product, which can have both work-in-process and finished goods inventories. Remington would most likely use both cost of goods manufactured and cost of goods sold statements. Confiable, on the other hand, is a service company. This service takes very little time to complete. Therefore, Confiable would have no work-in-process inventory or finished goods (i.e., installed mufflers) inventory. It can, of course, have a materials inventory (mufflers on hand that have not been installed).

Problem 2–42

1. c. These costs include direct materials, direct labor, and overhead. The total of these three types of costs equals product cost.

2. a. If Linda returns to school, she will need to quit her job. The lost salary is the opportunity cost of returning to school.

3. b. If Randy were engaged in manufacturing a product, his salary would be a product cost. Instead, the product has been manufactured. It is is finished goods warehouse waiting to be sold. This is a period cost.

4. j. Jamie is working at company headquarters, and her salary is part of administrative cost.

5. i. All factory costs other than direct materials and direct labor are, by definition, overhead.

Problem 2–42 (Concluded)

6. d. The design engineer is estimating the total number of labor hours required to complete the manufacturing of a product. This total will be used to compute direct labor cost.

7. h. This is direct materials cost.

8. g. The sum of direct materials and direct labor is, by definition, prime cost.

9. f. The cost of converting direct materials into finished product is the sum of direct labor and overhead. This is conversion cost.

10. e. The depreciation on the delivery trucks is part of selling cost, the cost of selling and delivering product.

Problem 2–43

1. Before the cost of services sold can be calculated, the cost of direct materials must be determined.

   Cost of direct materials = $20,000 + $40,000 – $0 = $60,000

Direct materials used	$ 60,000
Direct labor	800,000
Overhead	100,000
Total cost of production last year	$960,000
Beginning inventory designs in process	60,000
Ending inventory designs in process	(100,000)
Cost of services sold	$920,000

2.

Berry Company
Income Statement
For Last Year

Sales ($2,100 × 700)	$1,470,000
Cost of services sold	920,000
Gross margin	$ 550,000
Selling expense	60,000
Administrative expense	150,000
Operating income	$ 340,000

Problem 2–43 (Concluded)

3. **The dominant cost in the cost of services sold statement is direct labor. This cost is often the largest cost in a service company, especially when what is sold is professional time and expertise. Law and accounting firms also would show direct labor as the largest cost in the cost of services. It is possible for a service firm to show overhead as the largest cost. For example, a free-standing radiology clinic may have overhead as the dominant cost, since the depreciation on equipment (e.g., x-ray machines, MRIs) would be very high.**

4. **Berry Company prepares custom building plans to order. That is, Berry does not start to design a project until a client contracts with them to do so. If Berry began to prepare plans on speculation, it would design the building first and then have a stock of finished plans ready to sell. In that case, there could well be an inventory of finished plans.**

Problem 2–44

1.

W. W. Phillips Company
Statement of Cost of Goods Manufactured
For Last Year

Direct materials		$300,000*
Direct labor		200,000
Overhead:		
Indirect labor	$40,000	
Rent, factory building	42,000	
Depreciation, factory equipment	60,000	
Utilities, factory	11,900	153,900
Total cost of product		$653,900
Beginning work in process		13,040
Ending work in process		(14,940)
Cost of goods manufactured		$652,000

*Direct materials used = $46,800 + $320,000 – $66,800 = $300,000

2. **Average cost of one unit of product = $652,000/4,000 = $163**

Problem 2–44 (Concluded)

3.

W. W. Phillips Company
Income Statement
For Last Year

Sales ($400 × 3,800*)		$1,520,000
Cost of goods sold		617,900**
Gross margin		$ 902,100
Selling expense:		
Sales supervisor's salary	$ 90,000	
Commissions	180,000	270,000
General administration expense		300,000
Operating income		$ 332,100

* Units sold = 4,000 + 500 – 700 = 3,800

**Cost of goods sold = $652,000 + $80,000 – $114,100 = $617,900

Problem 2–45

1. The Internet payment of $40 is an expense that would appear on the income statement. This is because the Internet services are used up each month—Luisa cannot "save" any unused Internet time for the next month.

2. The opportunity cost is the $100 that Luisa would have made if she had been able to accept the movie role. It is an opportunity cost because it is the cost of the next best alternative to dog walking.

3. The price is $250 per month per dog. (*Note*: The price is charged by Luisa to her clients; it is not her cost.)

   Total revenue for a month = $250 × 12 dogs = $3,000

Problem 2–46

1. Direct materials:		
Magazine (5,000 × $0.40)	**$2,000**	
Brochure (10,000 × $0.08)	**800**	**$2,800**
Direct labor:		
Magazine [(5,000/20) × $10]	**$2,500**	
Brochures [(10,000/100) × $10]	**1,000**	**3,500**
Manufacturing overhead:		
Rent	**$1,400**	
Depreciation [($40,000/20,000) × 350*]	**700**	
Setups	**600**	
Insurance	**140**	
Power	**350**	**3,190**
Cost of goods manufactured		**$9,490**

***Production is 20 units per printing hour for magazines and 100 units per printing hour for brochures, yielding monthly machine hours of 350 [(5,000/20) + (10,000/100)]. This is also monthly labor hours as machine labor only operates the presses.**

2. Direct materials	**$2,800**
Direct labor	**3,500**
Total prime costs	**$6,300**
Magazine:	
Direct materials	**$2,000**
Direct labor	**2,500**
Total prime costs	**$4,500**
Brochure:	
Direct materials	**$ 800**
Direct labor	**1,000**
Total prime costs	**$1,800**

Problem 2–46 (Continued)

3. Total monthly conversion cost:

Direct labor	$3,500	
Overhead	3,190	
Total	$6,690	
Magazine:		
Direct labor		$2,500
Overhead:		
Power ($1 × 250)	$ 250	
Depreciation ($2 × 250)	500	
Setups (2/3 × $600)	400	
Rent and insurance ($4.40 × 250 DLH)*	1,100	2,250
Total		$4,750
Brochures:		
Direct labor		$1,000
Overhead:		
Power ($1 × 100)	$ 100	
Depreciation ($2 × 100)	200	
Setups (1/3 × $600)	200	
Rent and insurance ($4.40 × 100 DLH)*	440	940
Total		$1,940

*Rent and insurance cannot be traced to each product so the costs are assigned using direct labor hours: $1,540/350 DLH = $4.40 per direct labor hour. The other overhead costs are traced according to their usage. Depreciation and power are assigned by using machine hours (250 for magazines and 100 for brochures): $350/350 = $1.00 per machine hour for power and $40,000/20,000 = $2.00 per machine hour for depreciation. Setups are assigned according to the time required. Since magazines use twice as much time, they receive twice the cost: Letting X = the proportion of setup time used for brochures, 2X + X = 1 implies a cost assignment ratio of 2/3 for magazines and 1/3 for brochures.

Problem 2–46 (Concluded)

4. Sales [(5,000 × $1.80) + (10,000 × $0.45)]		**$13,500**
Less cost of goods sold		**9,490**
Gross margin		**$ 4,010**
Less operating expenses:		
Selling	**$ 500[a]**	
Administrative	**1,500[b]**	**2,000**
Income before taxes		**$ 2,010**

[a]Distribution of goods is a selling expense.

[b]A case could be made for assigning part of her salary to production. However, since she is responsible for coordinating and managing all business functions, an administrative classification is more convincing.

Problem 2–47

1. Direct materials:		
Food purchases		**$ 80,000**
Direct labor (salaries of):		
Courtney	**$2,500**	
Assistant chefs	**4,000**	
Preparers	**9,000**	**15,500**
Overhead:		
Gasoline and depreciation on van	**$1,000**	
Salaries of clean-up workers	**3,000**	
Depreciation on kitchen equipment	**2,000**	
Dish/cookware purchases	**500**	
Cleaning supplies	**350**	**6,850**
Total direct kitchen costs		**$102,350**

2. Total prime cost = $80,000 + $15,500 = $95,500

Total conversion cost = $15,500 + $6,850 = $22,350

Problem 2–47 (Concluded)

3. **Three types of inventories have been studied—materials, work in process, and finished goods. In general, there would be no work-in-process inventory in a restaurant since it is unlikely that they prepare food one month and serve it in another. Similarly, there is probably no inventory of finished goods. There could easily be an inventory of materials, especially of nonperishable materials, such as canned goods, sugar, flour, and so on. However, the restaurant's purchase of fresh produce would not be kept in inventory long so that could safely be ignored (from an accounting standpoint). Whether or not Courtney wants to consider changes in inventory would depend on the circumstances. If she makes large purchases of goods that would be used over a multi-month period, then beginning and ending inventories should be considered. If not, then they can be ignored.**

   One might wonder about the dish and cookware purchases. Again, Courtney must consider the circumstances. Suppose that she routinely makes large purchases of replacement dishes and cookware once or twice a year. Then, the cost should be spread evenly across the months. However, if she purchases these items relatively evenly throughout the year, they can simply be added to overhead cost in the month incurred.

4.

Restaurant
Income Statement
For the Past Month

Sales		$243,000
Less:		
Kitchen cost	$102,350	
Front room and bar costs	80,000	
Shared restaurant costs	45,000	227,350
Gross margin		$ 15,650
Less: Selling and administrative expense		13,000
Operating income		$ 2,650

Problem 2–48

1. **The costs of the tent sales are accounted for as selling expense. The tent sales are designed to sell outdated or remanufactured products. They are not the main reason that Kicker is in business. In fact, an important objective is simply to increase awareness of the Kicker brand. As a result, these related costs are selling expense.**

2.

Revenue	**$20,000**
Cost of goods sold	**(7,000)**
Tent sale expense	**(14,300)**
Tent sale loss	**$ (1,300)**

A couple of actions could be taken. First, it could look for a more appropriate venue. The outer parking lot of a shopping center, or even a large grocery store, would enable Kicker employees to easily load purchased product into customer cars. Second, the deejay could be dispensed with; instead, music could be played from CDs over the audio system in the truck. Third, Kicker could spend a year or so raising brand awareness in the Austin market before attempting another tent sale.

CASES

Case 2–49

1.

Production	Selling	Administrative
(DL) Machine operators		Utilities
(DL) Other direct labor		Rent
(OH) Supervisory salaries		CPA fees
(DM) Pipe	Sales salaries	Adm. salaries
(OH) Tires and fuel	Advertising	
(OH) Depreciation		
(OH) Salaries of mechanics		

2.

Gateway Construction Company
Income Statement
For the Year Ended December 31, 2006

Sales		$ 3,003,000
Cost of services sold:		
Direct materials	$ 1,401,340	
Direct labor	483,700	
Supervisory salaries	70,000	
Tires and fuel	418,600	
Depreciation, equipment	198,000	
Salaries of mechanics	50,000	2,621,640
Gross margin		$ 381,360
Administrative expenses:		
Utilities	$ 24,000	
Rent, office building	24,000	
CPA fees	20,000	
Administrative salaries*	57,000	125,000
Selling expenses:		
Sales salaries*	$ 57,000	
Advertising	15,000	72,000
Income before income taxes		$ 184,360

*1/2 × $114,000

Average cost per equipment hour: $2,621,640/18,200 = $144.05 (rounded)

2–49 Concluded

3. Traceable costs using equipment hours:

Machine operators	**$ 218,000**
Other direct labor	**265,700**
Pipe	**1,401,340**
Tires and fuel	**418,600**
Depreciation, equipment	**198,000**
Salaries of mechanics	**50,000**
Total	**$ 2,551,640**

Machine operators, tires and fuel, and depreciation are all directly caused by equipment usage, which is measured by equipment hours. One can also argue that the maintenance required is also a function of equipment hours and so the salaries of mechanics can be assigned using equipment hours. Pipe and other direct labor can be assigned using equipment hours because their usage should be highly correlated with equipment hours. That is, equipment hours increase because there is more pipe being laid. As hours increase, so does the pipe usage. A similar argument can be made for other direct labor. Actually, it is not necessary to use equipment hours to assign pipe or other direct labor because these two costs are directly traceable to jobs.

Traceable cost per equipment hour= $2,551,640/18,200
= $140.20 per hour

Case 2–50

1. **Leroy should politely and firmly decline the offer. The offer includes an implicit request to use confidential information to help Jean win the bid. Use of such information for personal advantage is wrong. Leroy has a professional and personal obligation to his current employer. This obligation must take precedence over the opportunity for personal financial gain.**

   Corporate codes of conduct emphasize honesty and integrity. Leroy has a responsibility to act on behalf of his company, and clearly, disclosing confidential information acquired in the course of his work to a competitor would be prohibited. In addition, codes of corporate conduct also require employees to avoid conflicts of interest and to refuse any gift, favor, or hospitality that would influence employee actions inappropriately.

2. **If Leroy agrees to review the bid, he will likely use his knowledge of his current employer's position to help Jean win the bid. In fact, agreement to help probably would reflect a desire for the bonus and new job with the associated salary increase. Helping would likely ensure that Jean would win the bid. Leroy was concerned about the political fallout and subsequent investigation revealing his involvement—especially if he sent up a red flag by switching to his friend's firm. An investigation may reveal the up-front bonus and increase the suspicion about Leroy's involvement. There is a real possibility that Leroy could be implicated. Whether this would lead to any legal difficulties is another issue. At the very least, some tarnishing of his professional reputation and personal character is possible. Some risk to Leroy exists. The amount of risk, though, should not be a factor in Leroy's decision. What is right should be the central issue, not the likelihood of getting caught.**