Chapter 16
Introduction to Managerial Accounting

Review Questions

1. What is the primary purpose of managerial accounting?

The primary purpose of managerial accounting is to provide information to help managers plan and control operations.

2. Explain the difference between planning and controlling.

Planning means choosing goals and deciding how to achieve them, whereas, controlling means implementing the plans and evaluating operations by comparing actual results to the budget.

3. List six differences between financial accounting and managerial accounting.

Financial accounting and managerial accounting differ on the following 6 dimensions: (1) primary users, (2) purpose of information, (3) focus and time dimension of the information, (4) rules and restrictions, (5) scope of information, and (6) behavioral.

4. How does managerial accounting assist managers with their responsibilities to the company's stakeholders?

Management accountability is the manager's responsibility to the various stakeholders of the company. Stakeholders have an interest of some sort in the company, and include customers, creditors, suppliers, employees, and investors. Managerial accounting provides information to help managers make wise decisions, effectively manage the resources of the company, evaluate operations, plan, and control. These things are requisite to meeting responsibilities to the company's stakeholders. For example: Making timely payments to suppliers, providing a return on investors' investment, repaying creditors, providing a safe work environment, and providing products that are safe and defect-free.

5. List the four IMA standards of ethical practice, and briefly describe each.

The four IMA standards of ethical practice and a description of each follow.
I. Competence.

- Maintain an appropriate level of professional expertise.
- Perform professional duties in accordance with relevant laws, regulations, and technical standards.
- Provide decision support information and recommendations that are accurate, clear, concise, and timely.

- Recognize and communicate professional limitations or other constraints that preclude responsible judgment or successful performance of an activity.

II. Confidentiality.

- Keep information confidential except when disclosure is authorized or legally required.
- Inform all relevant parties regarding appropriate use of confidential information. Monitor subordinates' activities to ensure compliance.
- Refrain from using confidential information for unethical or illegal advantage.

III. Integrity.

- Mitigate actual conflicts of interest, regularly communicate with business associates to avoid apparent conflicts of interest. Advise all parties of any potential conflicts.
- Refrain from engaging in any conduct that would prejudice carrying out duties ethically.
- Abstain from engaging in or supporting any activity that might discredit the profession.

IV. Credibility.

- Communicate information fairly and objectively.
- Disclose all relevant information that could reasonably be expected to influence an intended user's understanding of the reports, analyses, or recommendations.
- Disclose delays or deficiencies in information, timeliness, processing, or internal controls in conformance with organization policy and/or applicable law.

6. Describe a service company, and give an example.

Service companies sell time, skills, and knowledge. They seek to provide services that are high quality with reasonable prices and timely delivery. Examples of service companies include phone service companies, banks, cleaning service companies, accounting firms, law firms, medical physicians, and online auction services.

7. Describe a merchandising company, and give an example.

Merchandising companies resell products they buy from suppliers. Merchandisers keep an inventory of products, and managers are accountable for the purchasing, storage, and sale of the products. Examples of merchandising companies include toy stores, grocery stores, and clothing stores.

8. What are product costs?

Product costs are all costs of a product that GAAP requires companies to treat as an asset for external financial reporting. These costs are recorded as an asset and not expensed until the product is sold. Product costs include direct materials, direct labor, and manufacturing overhead.

9. How do period costs differ from product costs?

Period costs are operating costs that are expensed in the same accounting period in which they are incurred, whereas product costs are recorded as an asset and not expensed until the accounting period in which the product is sold. Period costs are all costs not considered product costs. On the income statement, Cost of Goods Sold (a product cost) is subtracted from Sales Revenue to compute gross profit. Period costs are subtracted from gross profit to determine operating income.

10. How do manufacturing companies differ from merchandising companies?

Merchandising companies resell products they previously bought from suppliers, whereas manufacturing companies use labor, equipment, supplies, and facilities to convert raw materials into new finished products. In contrast to merchandising companies, manufacturing companies have a broad range of production activities that require tracking costs on three kinds of inventory.

11. List the three inventory accounts used by manufacturing companies, and describe each.

The three inventory accounts used by manufacturing companies are Raw Materials Inventory, Work-in-Process Inventory, and Finished Goods Inventory.

Raw Materials Inventory includes materials used to manufacture a product. Work-in-Process Inventory includes goods that have been started in the manufacturing process but are not yet complete. Finished Goods Inventory includes completed goods that have not yet been sold.

12. How does a manufacturing company calculate cost of goods sold? How is this different from a merchandising company?

For a manufacturing company, the activity in the Finished Goods Inventory account provides the information for determining Cost of Goods Sold. A manufacturing company calculates Cost of Goods Sold as Beginning Finished Goods Inventory + Cost of Goods Manufactured – Ending Finished Good Inventory. In addition, a manufacturing company must track costs from Raw Materials Inventory and Work-in-Process Inventory in order to compute Cost of Goods Manufactured used in the previous equation.

For a merchandising company, the activity in the Merchandise Inventory account provides the information for determining Cost of Goods Sold. A merchandising company calculates Cost of Goods Sold as Beginning Merchandise Inventory + Purchases and Freight In – Ending Merchandise Inventory.

13. Explain the difference between a direct cost and an indirect cost.

A direct cost is a cost that can be easily and cost-effectively traced to a cost object (which is anything for which managers want a separate measurement of cost). An indirect cost is a cost that cannot be easily or cost-effectively traced to a cost object.

14. What are the three product costs for a manufacturing company? Describe each.

The three product costs for a manufacturing company are direct materials, direct labor, and manufacturing overhead. Direct materials are materials that become a physical part of a finished product and whose costs are easily traceable to the finished product. Direct labor is the labor cost of the employees who convert materials into finished products. Manufacturing overhead includes all manufacturing costs except direct materials and direct labor, such as indirect materials, indirect labor, factory depreciation, factory rent, and factory property taxes.

15. Give five examples of manufacturing overhead.

Examples of manufacturing overhead include costs of indirect materials, indirect labor, repair and maintenance in factory, factory utilities, factory rent, factory insurance, factory property taxes, manufacturing plant managers' salaries, and depreciation on manufacturing buildings and equipment.

16. What are prime costs? Conversion costs?

Prime costs are direct materials plus direct labor. Conversion costs are direct labor plus manufacturing overhead. Note that direct labor is classified as both a prime cost and a conversion cost.

17. How is cost of goods manufactured calculated?

Cost of Goods Manufactured is calculated as Beginning Work-in-Process Inventory + Direct Materials Used + Direct Labor + Manufacturing Overhead – Ending Work-in-Process Inventory.

18. How does a manufacturing company calculate unit product cost?

A manufacturing company calculates unit product cost as Cost of Goods Manufactured / Total number of units produced.

19. How does a service company calculate unit cost per service?

A service company calculates unit cost per service as Total Costs / Total number of services provided.

20. How does a merchandising company calculate unit cost per item?

A merchandising company calculates unit cost per item as Total Cost of Goods Sold / Total number of items sold.

Short Exercises

S16-1 Comparing managerial accounting and financial accounting
Learning Objective 1

For each of the following, indicate whether the statement relates to managerial accounting (MA) or financial accounting (FA):

a. Helps investors make investment decisions.
b. Provides detailed reports on parts of the company.
c. Helps in planning and controlling operations.
d. Reports must follow Generally Accepted Accounting Principles (GAAP).
e. Reports audited annually by independent certified public accountants.

SOLUTION

a. FA
b. MA
c. MA
d. FA
e. FA

S16-2 Identifying management accountability and the stakeholders
Learning Objective 1

For each of the following management responsibilities, indicate the primary stakeholder group to whom management is responsible.

1. Providing high-quality, reliable products/services for a reasonable price in a timely manner.	**a.** Investors
2. Paying taxes in a timely manner.	**b.** Creditors
3. Providing a safe, productive work environment.	**c.** Suppliers
4. Generating a profit.	**d.** Employees
5. Repaying principal plus interest in a timely manner.	**e.** Customers
	f. Government
	g. Community

SOLUTION

1. e.
2. f.
3. d.
4. a.
5. b.

S16-3 Matching business trends terminology
Learning Objective 1

Match the term with the correct definition.

1.	A philosophy designed to integrate all organizational areas in order to provide customers with superior products and services while meeting organizational objectives. Requires improving quality and eliminating defects and waste.	**a.**	ERP
2.	Use of the Internet for business functions such as sales and customer service. Enables companies to reach customers around the world.	**b.**	JIT
3.	Evaluating a company's performance by its economic, social, and environmental impact.	**c.**	E-commerce
4.	Software system that integrates all of a company's functions, departments, and data into a single system.	**d.**	TQM
5.	A system in which a company produces products just when they are needed to satisfy needs. Suppliers deliver materials when they are needed to begin production, and finished units are completed at the right time for delivery to customers.	**e.**	Triple bottom line

SOLUTION

1. d.
2. c.
3. e.
4. a.
5. b.

S16-4 Identifying ethical standards
Learning Objective 1

The Institute of Management Accountants' Statement of Ethical Professional Practice requires managerial accountants to meet standards regarding competence, confidentiality, integrity, and credibility. Consider the following situations. Which standard(s) are violated in each situation?

a. You tell your brother that your company will report earnings significantly above financial analysts' estimates.
b. You see others take home office supplies for personal use. As an intern, you do the same thing, assuming that this is a "perk."
c. At a company-paid conference on e-commerce, you skip the afternoon session and go sightseeing.
d. You failed to read the detailed specifications of a new accounting software package that you asked your company to purchase. After it is installed, you are surprised that it is incompatible with some of your company's older accounting software.
e. You do not provide top management with the detailed job descriptions they requested because you fear they may use this information to cut a position in your department.

SOLUTION

a. Confidentiality
b. Integrity
c. Competence (skipping the session); Integrity (company-paid conference)
d. Competence
e. Credibility; Integrity

S16-5 Computing cost of goods sold, merchandising company
Learning Objective 2

Use the following information for The Windshield Pro, a retail merchandiser of auto windshields, to compute the cost of goods sold:

Web Site Maintenance	$ 7,000
Delivery Expense	800
Freight In	2,700
Purchases	40,000
Ending Merchandise Inventory	5,100
Revenues	57,000
Marketing Expenses	10,100
Beginning Merchandise Inventory	8,200

SOLUTION

Beginning merchandise inventory		$ 8,200
Purchases	$ 40,000	
Freight in	2,700	42,700
Cost of goods available for sale		50,900
Ending merchandise inventory		(5,100)
Cost of goods sold		$ 45,800

S16-6 Computing cost of goods sold and operating income, merchandising company
Learning Objective 2

Consider the following partially completed income statements for merchandising companies and compute the missing amounts:

	Jones, Inc.	Corrigan, Inc.
Sales	$ 99,000	$ *(d)*
Cost of Goods Sold:		
Beginning Merchandise Inventory	*(a)*	29,000
Purchases and Freight In	50,000	*(e)*
Cost of Goods Available for Sale	*(b)*	92,000
Ending Merchandise Inventory	(2,100)	(2,100)
Cost of Goods Sold	63,000	*(f)*
Gross Profit	36,000	115,000
Selling and Administrative Expenses	*(c)*	86,000
Operating Income	$ 13,000	$ *(g)*

SOLUTION

	Solutions:	Calculations:
(a)	$15,100	$65,100 [b, below] - $50,000
(b)	$65,100	$63,000 + $2,100
(c)	$23,000	$36,000 – $13,000
(d)	$204,900	$115,000 + $89,900 [f, below]
(e)	$63,000	$92,000 – $29,000
(f)	$89,900	$92,000 – $2,100
(g)	$29,000	$115,000 – $86,000

Order of calculations:
Jones, Inc.: (b), (a), (c)
Corrigan, Inc.: (e), (f), (d), and (g)

S16-7 Distinguishing between direct and indirect costs
Learning Objective 3

Granger Cards is a manufacturer of greeting cards. Classify its costs by matching the costs to the terms.

1. Direct materials	**a.** Artists' wages
2. Direct labor	**b.** Wages of materials warehouse workers
3. Indirect materials	**c.** Paper
4. Indirect labor	**d.** Depreciation on manufacturing equipment
5. Other manufacturing overhead	**e.** Manufacturing plant manager's salary
	f. Property taxes on manufacturing plant
	g. Glue for envelopes

SOLUTION

a. 2
b. 4
c. 1
d. 5
e. 4
f. 5
g. 3

S16-8 Computing manufacturing overhead
Learning Objective 3

Glass Doctor Company manufactures sunglasses. Following is a list of costs the company incurred during May. Use the list to calculate the total manufacturing overhead costs for the month.

Glue for frames	$ 200
Depreciation on company cars used by sales force	3,500
Plant depreciation	6,000
Interest Expense	1,500
Lenses	49,000
Company president's salary	26,000
Plant foreman's salary	3,000
Plant janitor's wages	1,100
Oil for manufacturing equipment	150

SOLUTION

Glue for frames	$ 200
Plant depreciation	6,000
Plant foreman's salary	3,000
Plant janitor's wages	1,100
Oil for manufacturing equipment	150
Total manufacturing overhead	$ 10,450

S16-9 Identifying product costs and period costs
Learning Objective 3

Classify each cost of a paper manufacturer as either product cost or period cost:
a. Salaries of scientists studying ways to speed forest growth.
b. Cost of computer software to track WIP Inventory.
c. Cost of electricity at the paper mill.
d. Salaries of the company's top executives.
e. Cost of chemicals to treat the paper.
f. Cost of TV ads.
g. Depreciation on the manufacturing plant.
h. Cost to purchase wood pulp.
i. Life insurance on the CEO.

SOLUTION

a. Period cost

b. Product cost

c. Product cost

d. Period cost

e. Product cost

f. Period cost

g. Product cost

h. Product cost

i. Period cost

S16-10 Computing direct materials used
Learning Objective 4

Lazio, Inc. has compiled the following data:

Purchases of Raw Materials	$ 6,600
Freight In	500
Property Taxes	1,200
Ending Inventory of Raw Materials	1,300
Beginning Inventory of Raw Materials	3,700

Assume all materials used are direct materials (none are indirect). Compute the amount of direct materials used.

SOLUTION

Beginning Raw Materials Inventory		$ 3,700
Purchases of Raw Materials	$ 6,600	
Freight In	500	7,100
Raw Materials Available for Use		10,800
Ending Raw Materials Inventory		(1,300)
Direct Materials Used		$ 9,500

S16-11 Computing cost of goods manufactured
Learning Objective 4

Use the following inventory data for Slicing Golf Company to compute the cost of goods manufactured for the year:

Direct Materials Used	$ 12,000
Manufacturing Overhead	22,000
Work-in-Process Inventory:	
Beginning	7,000
Ending	5,000
Direct Labor	13,000
Finished Goods Inventory:	
Beginning	19,000
Ending	15,000

SOLUTION

Beginning Work-in-Process Inventory		$ 7,000
Direct Materials Used	$ 12,000	
Direct Labor	13,000	
Manufacturing Overhead	22,000	
Total Manufacturing Costs Incurred during the Year		47,000
Total Manufacturing Costs to Account For		54,000
Ending Work-in-Process Inventory		(5,000)
Cost of Goods Manufactured		$ 49,000

S16-12 Computing cost of goods sold, manufacturing company
Learning Objective 4

Use the following information to calculate the cost of goods sold for The Eaton Company for the month of June:

Finished Goods Inventory:	
Beginning Balance	$ 32,000
Ending Balance	17,000
Cost of Goods Manufactured	160,000

SOLUTION

Beginning Finished Goods Inventory	$ 32,000
Cost of Goods Manufactured	160,000
Cost of Goods Available for Sale	192,000
Ending Finished Goods Inventory	(17,000)
Cost of Goods Sold	$ 175,000

S16-13 Calculating unit cost per service
Learning Objective 5

Knots and Reynolds provides hair-cutting services in the local community. In February, the business cut the hair of 240 clients, earned $4,900 in revenues, and incurred the following operating costs:

Hair Supplies Expense	$ 375
Wages Expense	1,321
Utilities Expense	150
Depreciation Expense—Equipment	50

What was the cost of service to provide one haircut?

SOLUTION

Cost of one haircut = Total operating costs / Total number of haircuts
= [$375 + $1,321 + $150 + $50] / 240 haircuts
= $1,896 / 240 haircuts
= $7.90 per haircut

Exercises

E16-14 Comparing managerial accounting and financial accounting
Learning Objective 1

Match the following terms to the appropriate statement. Some terms may be used more than once, and some terms may not be used at all.

Budget	Managerial
Creditors	Managers
Controlling	Planning
Financial	Stockholders

a. Accounting systems that must follow GAAP.
b. External parties for whom financial accounting reports are prepared.
c. The role managers play when they are comparing the company's actual results with the planned results.
d. Internal decision makers.
e. Accounting system that provides information on a company's past performance.
f. Accounting system not restricted by GAAP but chosen by comparing the costs versus the benefits of the system.
g. The management function that involves choosing goals and the means to achieve them.

SOLUTION

a. Financial
b. Creditors and Stockholders
c. Controlling
d. Managers
e. Financial
f. Managerial
g. Planning

E16-15 Understanding today's business environment
Learning Objective 1

Match the following terms to the appropriate statement. Some terms may be used more than once, and some terms may not be used at all.

E-commerce	Just-in-time management (JIT)
Enterprise resource planning (ERP)	Total quality management (TQM)

a. A management system that focuses on maintaining lean inventories while producing products as needed by the customer.
b. A philosophy designed to integrate all organizational areas in order to provide customers with superior products and services while meeting organizational objectives.
c. Integrates all of a company's functions, departments, and data into a single system.
d. Adopted by firms to conduct business on the Internet.

SOLUTION

a. JIT

b. TQM

c. ERP

d. E-Commerce

E16-16 Making ethical decisions
Learning Objective 1

Sue Peters is the controller at Vroom, a car dealership. Dale Miller recently has been hired as the bookkeeper. Dale wanted to attend a class in Excel spreadsheets, so Sue temporarily took over Dale's duties, including overseeing a fund used for gas purchases before test drives. Sue found a shortage in the fund and confronted Dale when he returned to work. Dale admitted that he occasionally uses the fund to pay for his own gas. Sue estimated the shortage at $450.

Requirements
1. What should Sue Peters do?
2. Would you change your answer if Sue Peters was the one recently hired as controller and Dale Miller was a well-liked, longtime employee who indicated he always eventually repaid the fund?

SOLUTION

Students' responses will vary. Illustrative answers follow.

Requirement 1

A new employee who has engaged in this behavior is unlikely to become a valued and trusted employee. This type of behavior is unethical, and Sue Peters should consider beginning the process to terminate the employee. Any company policies with respect to discipline and termination should be followed.

As controller, Sue Peters probably hired Dale, and she is also responsible for the lack of controls that permitted a new employee to commit this theft. She will need to supervise Dale and subsequent bookkeepers more carefully.

Requirement 2

Being a new employee, Sue Peters may want to discuss the situation with the her immediate supervisor or the company's preside if appropriate. Unless Sue can obtain additional information, she may want to indicate to Dale that this behavior will not be tolerated in the future. Sue should establish better controls and closer supervision.

Use the following data for Exercises E16-17, E16-18, and E16-19.

Selected data for three companies are given below. All inventory amounts are ending balances and all amounts are in millions.

Company A		Company B		Company C	
Cash	$ 5	Wages Expense	$ 16	Administrative Expenses	$ 5
Sales Revenue	28	Equipment	35	Cash	27
Finished Goods Inventory	1	Accounts Receivable	6	Sales Revenue	28
Cost of Goods Sold	21	Service Revenue	54	Selling Expenses	2
Selling Expenses	2	Cash	14	Merchandise Inventory	8
Equipment	68	Rent Expense	9	Equipment	52
Work-in-Process Inventory	1			Accounts Receivable	16
Accounts Receivable	6			Cost of Goods Sold	16
Cost of Goods Manufactured	20				
Administrative Expenses	1				
Raw Materials Inventory	10				

E16-17 Identifying differences between service, merchandising, and manufacturing companies
Learning Objective 2

Using the above data, determine the company type. Identify each company as a service company, merchandising company, or manufacturing company.

SOLUTION

Company A is a manufacturing company. Company B is a service company. Company C is a merchandising company.

E16-18 Identifying differences between service, merchandising, and manufacturing companies
Learning Objective 2
Company B: $29

Using the above data, calculate operating income for each company.

SOLUTION

Company A (all amounts in millions):

Sales Revenue		$ 28
Cost of Goods Sold		21
Gross Profit		7
Operating Expenses:		
Selling Expenses	$ 2	
Administrative Expenses	1	
Total Operating Expenses		3
Operating Income		$ 4

Company B (all amounts in millions):

Service Revenue		$ 54
Expenses:		
Wages Expense	$ 16	
Rent Expense	9	
Total Expenses		25
Operating Income		$ 29

Company C (all amounts in millions):

Sales Revenue		$ 28
Cost of Goods Sold		16
Gross Profit		12
Operating Expenses:		
Selling Expenses	$ 2	
Administrative Expenses	5	
Total Operating Expenses		7
Operating Income		$ 5

E16-19 Identifying differences between service, merchandising, and manufacturing companies
Learning Objective 2
Company C: $51

Using the above data, calculate total current assets for each company.

SOLUTION

Company A (all amounts in millions):

Cash	$ 5
Accounts Receivable	6
Raw Materials Inventory	10
Work-in-Process Inventory	1
Finished Goods Inventory	1
Total current assets	$ 23

Company B (all amounts in millions):

Cash	$ 14
Accounts Receivable	6
Total current assets	$ 20

Company C (all amounts in millions):

Cash	$ 27
Accounts Receivable	16
Merchandise Inventory	8
Total current assets	$ 51

E16-20 Classifying costs
Learning Objective 3

Wheels, Inc. manufactures wheels for bicycles, tricycles, and scooters. For each cost given below, determine if the cost is a product cost or a period cost. If the cost is a product cost, further determine if the cost is direct materials (DM), direct labor (DL), or manufacturing overhead (MOH) and then determine if the product cost is a prime cost, conversion cost, or both. If the cost is a period cost, further determine if the cost is a selling expense or administrative expense (Admin). *Cost (a) is answered as a guide.*

Cost	Product					Period	
	DM	DL	MOH	Prime	Conversion	Selling	Admin.
a. *Metal used for rims*	X			X			
b. Sales salaries							
c. Rent on factory							
d. Wages of assembly workers							
e. Salary of production supervisor							
f. Depreciation on office equipment							
g. Salary of CEO							
h. Delivery expense							

SOLUTION

Cost	Product			Product		Period	
	DM	DL	MOH	Prime	Conversion	Selling	Admin
a. Metal used for rims	***X***			***X***			
b. Sales salaries						**X**	
c. Rent on factory			**X**		**X**		
d. Wages of assembly workers		**X**		**X**	**X**		
e. Salary of production supervisor			**X**		**X**		
f. Depreciation on office equipment							**X**
g. Salary of CEO							**X**
h. Delivery expense						**X**	

E16-21 Computing cost of goods manufactured
Learning Objective 4

Consider the following partially completed schedules of cost of goods manufactured. Compute the missing amounts.

	Baker, Inc.	Lawson's Bakery	Outdoor Gear
Beginning Work-in-Process Inventory	$ *(a)*	$ 40,200	$ 2,600
Direct Materials Used	14,800	35,400	*(g)*
Direct Labor	10,100	20,000	1,800
Manufacturing Overhead	*(b)*	10,300	600
Total Manufacturing Costs Incurred during the Year	45,100	*(d)*	*(h)*
Total Manufacturing Costs to Account For	55,300	*(e)*	8,200
Ending Work-in-Process Inventory	*(c)*	(25,800)	(2,000)
Cost of Goods Manufactured	$ 50,800	$ *(f)*	$ *(i)*

SOLUTION

(a)

Total Manufacturing Costs to Account For	$ 55,300
Total Manufacturing Costs Incurred during the Year	(45,100)
Beginning Work-in-Process Inventory	$ 10,200

(b)

Total Manufacturing Costs Incurred during the Year	$ 45,100
Direct Materials Used	(14,800)
Direct Labor	(10,100)
Manufacturing Overhead	$ 20,200

(c)

Total Manufacturing Costs to Account For	$ 55,300
Cost of Goods Manufactured	(50,800)
Ending Work-in-Process Inventory	$ 4,500

(d)

Direct Materials Used	$ 35,400
Direct Labor	20,000
Manufacturing Overhead	10,300
Total Manufacturing Costs Incurred during the Year	$ 65,700

(e)

Beginning Work-in-Process Inventory	$ 40,200
Total Manufacturing Costs Incurred during the Year [d, above]	65,700
Total Manufacturing Costs to Account For	$ 105,900

(f)

Total Manufacturing Costs to Account For [e, above]	$ 105,900
Ending Work-in-Process Inventory	(25,800)
Cost of Goods Manufactured	$ 80,100

(g)

Total Manufacturing Costs Incurred during the Year [h, below]	$ 5,600
Direct Labor	(1,800)
Manufacturing Overhead	(600)
Direct Materials Used	$ 3,200

(h)

Total Manufacturing Costs to Account For	$ 8,200
Beginning Work-in-Process Inventory	(2,600)
Total Manufacturing Costs Incurred During the Year	$ 5,600

(i)

Total Manufacturing Costs to Account For	$ 8,200
Ending Work-in-Process Inventory	(2,000)
Cost of Goods Manufactured	$ 6,200

E16-22 Preparing a schedule of cost of goods manufactured
Learning Objective 4
1. COGM: $427,000
(Requirement 1 only)

Clarkson Corp., a lamp manufacturer, provided the following information for the year ended December 31, 2016:

Inventories:	**Beginning**	**Ending**
Raw Materials	$ 58,000	$ 22,000
Work-in-Process	100,000	63,000
Finished Goods	47,000	51,000
Other information:		
Depreciation, plant building and equipment		$ 13,000
Raw materials purchases		157,000
Insurance on plant		21,000
Sales salaries		46,000
Repairs and maintenance—plant		4,000
Indirect labor		30,000
Direct labor		129,000
Administrative expenses		56,000

Requirements

1. Use the information to prepare a schedule of cost of goods manufactured.
2. What is the unit product cost if Clarkson manufactured 2,135 lamps for the year?

SOLUTION

Requirement 1

CLARKSON CORP. Schedule of Cost of Goods Manufactured Year Ended December 31, 2016			
Beginning Work-in-Process Inventory			$ 100,000
Direct Materials Used:			
Beginning Raw Materials Inventory	$ 58,000		
Purchases of Raw Materials	157,000		
Raw Materials Available for Use	215,000		
Ending Raw Materials Inventory	(22,000)		
Direct Materials Used		$ 193,000	
Direct Labor		129,000	
Manufacturing Overhead:			
Depreciation, plant building and equipment	13,000		
Insurance on plant	21,000		
Repairs and maintenance—plant	4,000		
Indirect labor	30,000		
Total Manufacturing Overhead		68,000	
Total Manufacturing Costs Incurred During the Year			390,000
Total Manufacturing Costs to Account For			490,000
Ending Work-in-Process Inventory			(63,000)
Cost of Goods Manufactured			$ 427,000

Requirement 2

Unit product cost = Cost of goods manufactured / Total units produced

= $427,000 / 2,135 lamps

= $200 per lamp

E16-23 Computing cost of goods manufactured and cost of goods sold
Learning Objective 4
COGM: $204,000

Use the following information for a manufacturer to compute cost of goods manufactured and cost of goods sold:

Inventories:	**Beginning**	**Ending**
Raw Materials	$ 20,000	$ 26,000
Work-in-Process	38,000	34,000
Finished Goods	14,000	22,000
Other information:		
Purchases of materials		$ 75,000
Direct labor		89,000
Manufacturing overhead		42,000

SOLUTION

Beginning Work-in-Process Inventory			$ 38,000
Direct Materials Used:			
Beginning Raw Materials Inventory	$ 20,000		
Purchases of Raw Materials	75,000		
Raw Materials Available for Use	95,000		
Ending Raw Materials Inventory	(26,000)		
Direct Materials Used		$ 69,000	
Direct Labor		89,000	
Manufacturing Overhead		42,000	
Total Manufacturing Costs Incurred During the Year			200,000
Total Manufacturing Costs to Account For			238,000
Ending Work-in-Process Inventory			(34,000)
Cost of Goods Manufactured			$ 204,000

Beginning Finished Goods Inventory	$ 14,000	
Cost of Goods Manufactured	204,000	[above]
Cost of Goods Available for Sale	218,000	
Ending Finished Goods Inventory	(22,000)	
Cost of Goods Sold	$ 196,000	

E16-24 Calculating income and cost per service for a service company
Learning Objective 5
1. $8,980

One Stop Grooming provides grooming services for pets. In April, the company earned $16,000 in revenues and incurred the following operating costs to groom 600 dogs:

Wages Expense	$ 3,900
Grooming Supplies Expense	1,730
Building Rent Expense	1,000
Utilities Expense	285
Depreciation Expense—Equipment	105

Requirements

1. What is One Stop's net income for April?
2. What is the cost of service to groom one dog?

SOLUTION

Requirement 1

Grooming Revenue		$ 16,000
Expenses:		
Wages Expense	$ 3,900	
Grooming Supplies Expense	1,730	
Building Rent Expense	1,000	
Utilities Expense	285	
Depreciation Expense—Equipment	105	
Total Expenses		7,020
Net Income		$ 8,980

Requirement 2

Cost of Service to Groom One Dog	=	Total expenses / Total number of dogs groomed
	=	$7,020 / 600 dogs
	=	$11.70 per dog

E16-25 Calculating income and cost per unit for a merchandising company
Learning Objective 5
2. $9.36

White Brush Company sells standard hair brushes. The following information summarizes White's operating activities for 2016:

Selling and Administrative Expenses	$ 34,020
Purchases	65,880
Sales Revenue	97,200
Merchandise Inventory, January 1, 2016	8,100
Merchandise Inventory, December 31, 2016	23,436

Requirements

1. Calculate the operating income for 2016.

2. White sold 5,400 brushes in 2016. Compute the unit cost for one brush.

SOLUTION

Requirement 1

Sales Revenue		$ 97,200
Cost of Goods Sold:		
Beginning Merchandise Inventory	$ 8,100	
Purchases	65,880	
Cost of Goods Available for Sale	73,980	
Ending Merchandise Inventory	(23,436)	
Cost of Goods Sold		50,544
Gross Profit		46,656
Selling and Administrative Expenses		34,020
Operating Income		$ 12,636

Requirement 2

Unit cost for one brush = Cost of goods sold / Total units sold

= $50,544 / 5,400 brushes

= $9.36 per brush

Problems (Group A)

P16-26A Applying ethical standards, management accountability
Learning Objective 1

Natalia Wallace is the new controller for Smart Software, Inc. which develops and sells education software. Shortly before the December 31 fiscal year-end, James Cauvet, the company president, asks Wallace how things look for the year-end numbers. He is not happy to learn that earnings growth may be below 13% for the first time in the company's five-year history. Cauvet explains that financial analysts have again predicted a 13% earnings growth for the company and that he does not intend to disappoint them. He suggests that Wallace talk to the assistant controller, who can explain how the previous controller dealt with such situations. The assistant controller suggests the following strategies:

a. Persuade suppliers to postpone billing $13,000 in invoices until January 1.
b. Record as sales $115,000 in certain software awaiting sale that is held in a public warehouse.
c. Delay the year-end closing a few days into January of the next year so that some of the next year's sales are included in this year's sales.
d. Reduce the estimated Bad Debts Expense from 5% of Sales Revenue to 3%, given the company's continued strong performance.
e. Postpone routine monthly maintenance expenditures from December to January.

Requirements

1. Which of these suggested strategies are inconsistent with IMA standards?
2. How might these inconsistencies affect the company's stakeholders?
3. What should Wallace do if Cauvet insists that she follow all of these suggestions?

SOLUTION

Students' responses will vary. Illustrative answers follow.

Requirement 1

a. If the goods have been received, postponing recording of the purchases understates liabilities. This is unethical and inconsistent with the IMA standards even if the suppliers agree to delay billing.
b. The software has not been sold. Therefore, it would be inconsistent with the IMA standards to record it as sales.
c. Delaying year-end closing incorrectly records next year's sales in this year's sales. This is unethical and inconsistent with the IMA standards.
d. The appropriate allowance for bad debts is a difficult judgment. The decision should not be driven by the desire to meet a profit goal. It should be based on the likelihood that the company will not collect the debts. We cannot determine this without more information. However, since the company emphasizes earnings growth, which can lead to sales to customers with weaker credit records, reducing the allowance seems questionable. It is not clear whether this strategy is inconsistent with the IMA standards.
e. If the maintenance is postponed, there is no transaction to record. This strategy is beyond the responsibility of the controller, so it does not violate IMA standards.

Requirement 2

Management accountability is management's responsibility to the various stakeholders of the company. Each group of stakeholders has an interest of some sort in the business. Stakeholders include suppliers, employees, customers, vendors, investors, creditors, governments, and communities. Managers are accountable to the stakeholders and have a responsibility to wisely manage the company's resources.

Managers provide information about their decisions and the results of those decisions to the stakeholders. Financial accounting provides financial statements that report results of operations, financial position, and cash flows both to managers and to external stakeholders. Managerial accounting provides the information needed to plan and control operations. Managers are responsible to many stakeholders, so they must plan and control operations carefully. Making decisions that cause the company to decline will affect many different groups, from investors to employees, and may have an economic impact on the entire community.

The inconsistencies noted for Smart Software, Inc. particularly impact the financial statement information provided by financial accounting to external stakeholders. They will be led to believe the operating performance (profitability) of the company is better than it really is. This misrepresentation may result in the investors holding the stock when they may have sold it with the correct information. Similarly, creditors may grant credit to the company with the false income information when they may not grant credit with the correct income information.

Requirement 3

The controller should resist attempts to implement a, b, and c and should gather more information about d. If the President ignores Wallace, then Wallace needs to consider if she wants to work for a company that engages in unethical behavior. Accountants should not be associated with any unethical behavior, and Wallace should resign.

P16-27A Classifying period costs and product costs
Learning Objective 3

Lawlor, Inc. is the manufacturer of lawn care equipment. The company incurs the following costs while manufacturing weed trimmers:

- Shaft and handle of weed trimmer
- Motor of weed trimmer
- Factory labor for workers assembling weed trimmers
- Nylon thread used by the weed trimmer (not traced to the product)
- Glue to hold the housing together
- Plant janitorial wages
- Depreciation on factory equipment
- Rent on plant
- Sales commissions
- Administrative salaries
- Plant utilities
- Shipping costs to deliver finished weed trimmers to customers

Requirements

1. Describe the difference between period costs and product costs.
2. Classify Lawlor's costs as period costs or product costs. If the costs are product costs, further classify them as direct materials, direct labor, or manufacturing overhead.

SOLUTION

Requirement 1

Period costs are operating costs that are expensed in the accounting period in which they are incurred.

Product costs are all costs of a product that GAAP requires companies to treat as an asset for external financial reporting. These costs are recorded as an asset (inventory) on the balance sheet until the asset is sold. The cost is then transferred to an expense account (Cost of Goods Sold) on the income statement. Product costs include direct materials, direct labor, and manufacturing overhead.

On the income statement, Cost of Goods Sold (product cost) is subtracted from Sales Revenue to determine gross profit. The period costs are then subtracted to determine operating income.

Requirement 2

Cost:	Period Cost	Product Cost: Direct Materials	Product Cost: Direct Labor	Product Cost: Manufacturing Overhead
Shaft and handle of weed trimmer		X		
Motor of weed trimmer		X		
Factory labor for workers assembling weed trimmers			X	
Nylon thread used by the weed trimmer (not traced to the product)				X
Glue to hold housing together				X
Plant janitorial wages				X
Depreciation on factory equipment				X
Rent on plant				X
Sales commissions	X			
Administrative salaries	X			
Plant utilities				X
Shipping costs to deliver finished weed trimmers to customers	X			

P16-28A Calculating cost of goods sold for merchandising and manufacturing companies
Learning Objectives 2, 4, 5
3. Company B: $218,600

Below are data for two companies:

	Company A	Company B
Beginning balances:		
Merchandise Inventory	$ 10,400	
Finished Goods Inventory		$ 16,200
Ending balances:		
Merchandise Inventory	12,900	
Finished Goods Inventory		12,100
Net Purchases	158,000	
Cost of Goods Manufactured		214,500

Requirements
1. Define the three business types: service, merchandising, and manufacturing.
2. Based on the data given for the two companies, determine the business type of each one.
3. Calculate the cost of goods sold for each company.

SOLUTION

Requirement 1

Service companies sell services rather than products. They sell time, skills, and knowledge. Merchandising companies resell products previously bought from suppliers. Manufacturing companies use labor, equipment, supplies, and facilities to convert raw materials into new finished products.

Requirement 2

Company A is a merchandising company. Company B is a manufacturing company. The company types can be determined by the account names in the ledger.

Requirement 3

Company A:

Beginning Merchandise Inventory	$ 10,400
Purchases (net)	158,000
Cost of Goods Available for Sale	168,400
Ending Merchandise Inventory	(12,900)
Cost of Goods Sold	$ 155,500

Company B:

Beginning Finished Goods Inventory	$ 16,200
Cost of Goods Manufactured	214,500
Cost of Goods Available for Sale	230,700
Ending Finished Goods Inventory	(12,100)
Cost of Goods Sold	$ 218,600

P16-29A Preparing an income statement and calculating unit cost for a service company
Learning Objectives 2, 5
2. $70.15

Sandman repairs chips in car windshields. The company incurred the following operating costs for the month of February 2016:

Salaries and wages	$ 6,000
Windshield repair materials	4,500
Depreciation on truck	250
Depreciation on building and equipment	600
Supplies used	500
Utilities	2,180

Sandman earned $27,000 in revenues for the month of February by repairing 200 windshields. All costs shown are considered to be directly related to the repair service.

Requirements

1. Prepare an income statement for the month of February.
2. Compute the cost per unit of repairing one windshield.
3. The manager of Sandman must keep unit operating cost below $60 per windshield in order to get his bonus. Did he meet the goal?

SOLUTION

Requirement 1

SANDMAN
Income Statement
Month Ended February 29, 2016

Revenues:		
Sales Revenue		$ 27,000
Expenses:		
Salaries and Wages Expense	$ 6,000	
Materials Expense	4,500	
Depreciation Expense—Truck	250	
Depreciation Expense—Building and Equipment	600	
Supplies Expense	500	
Utilities Expense	2,180	
Total Expenses		14,030
Net Income		$ 12,970

Requirement 2

Unit cost = Total expenses / Total windshields repaired

= $14,030 / 200 windshields

= $70.15 per windshield

Requirement 3

No. The actual unit cost per windshield of $70.15 is more than $60.

P16-30A Preparing an income statement and calculating unit cost for a merchandising company
Learning Objectives 2, 5
1. Net income: $12,750

Cam Smith owns Cam's Pets, a small retail shop selling pet supplies. On December 31, 2016, the accounting records of Cam's Pets showed the following:

Inventory on December 31, 2016	$ 10,400
Inventory on January 1, 2016	15,100
Sales Revenue	58,000
Utilities Expense for the shop	3,700
Rent for the shop	4,900
Sales Commissions	2,950
Purchases of Merchandise Inventory	29,000

Requirements

1. Prepare an income statement for Cam's Pets for the year ended December 31, 2016.
2. Cam's Pets sold 5,450 units. Determine the unit cost of the merchandise sold, rounded to the nearest cent.

SOLUTION

Requirement 1

CAM'S PETS
Income Statement
Year Ended December 31, 2016

Revenues:		
Sales Revenue		$ 58,000
Cost of Goods Sold:		
Beginning Merchandise Inventory	$ 15,100	
Purchases of Merchandise	29,000	
Cost of Goods Available for Sale	44,100	
Ending Merchandise Inventory	(10,400)	
Cost of Goods Sold		33,700
Gross Profit		24,300
Selling and Administrative Expenses:		
Utilities Expense	3,700	
Rent Expense	4,900	
Sales Commission Expense	2,950	
Total Selling and Administrative Expenses		11,550
Net Income		$ 12,750

Requirement 2

Unit cost = Cost of goods sold / Total units sold

= $33,700 / 5,450 units

= $6.18 per unit (rounded to nearest cent)

P16-31A Preparing a schedule of cost of goods manufactured and an income statement for a manufacturing company
Learning Objectives 2, 4
2. Net income: $34,900

Yum Yum Treats manufactures its own brand of pet chew bones. At the end of December 2016, the accounting records showed the following:

Inventories:	**Beginning**	**Ending**
Raw Materials	$ 13,100	$ 8,500
Work-in-Process	0	2,500
Finished Goods	0	5,700
Other information:		
Raw materials purchases		$ 30,000
Plant janitorial services		800
Sales salaries		5,000
Delivery costs		1,800
Sales revenue		105,000
Utilities for plant		1,100
Rent on plant		16,000
Customer service hotline costs		1,000
Direct labor		18,000

Requirements

1. Prepare a schedule of cost of goods manufactured for Yum Yum Treats for the year ended December 31, 2016.
2. Prepare an income statement for Yum Yum Treats for the year ended December 31, 2016.
3. How does the format of the income statement for Yum Yum Treats differ from the income statement of a merchandiser?
4. Yum Yum Treats manufactured 17,600 units of its product in 2016. Compute the company's unit product cost for the year, rounded to the nearest cent.

SOLUTION

Requirement 1

YUM YUM TREATS Schedule of Cost of Goods Manufactured Year Ended December 31, 2016			
Beginning Work-in-Process Inventory			$ 0
Direct Materials Used:			
Beginning Raw Materials Inventory	$ 13,100		
Purchases of Raw Materials	30,000		
Raw Materials Available for Use	43,100		
Ending Raw Materials Inventory	(8,500)		
Direct Materials Used		$ 34,600	
Direct Labor		18,000	
Manufacturing Overhead:			
Plant janitorial services	800		
Utilities for plant	1,100		
Rent on plant	16,000		
Total Manufacturing Overhead		17,900	
Total Manufacturing Costs Incurred during the Year			70,500
Total Manufacturing Costs to Account For			70,500
Ending Work-in-Process Inventory			(2,500)
Cost of Goods Manufactured			$ 68,000

P16-31A, cont.
Requirement 2

YUM YUM TREATS Income Statement Year Ended December 31, 2016		
Revenues:		
Sales Revenue		$ 105,000
Cost of Goods Sold:		
Beginning Finished Goods Inventory	$ 0	
Cost of Goods Manufactured*	68,000	
Cost of Goods Available for Sale	68,000	
Ending Finished Goods Inventory	(5,700)	
Cost of Goods Sold		62,300
Gross Profit		42,700
Selling and Administrative Expenses:		
Sales Salaries Expense	5,000	
Delivery Expense	1,800	
Customer Service Hotline Expense	1,000	
Total Selling and Administrative Expenses		7,800
Net Income (Loss)		$ 34,900

* From the Schedule of Cost of Goods Manufactured in Requirement 1.

Requirement 3

For a manufacturing company, cost of goods sold on the income statement is based on cost of goods manufactured and the change in Finished Goods Inventory. For a merchandising company, cost of goods sold on the income statement is based on cost of merchandise purchased (including freight in) and the change in Merchandise Inventory.

Requirement 4

Unit product cost = Cost of goods manufactured / Total units produced

= $68,000 / 17,600 units

= $3.86 per unit (rounded to nearest cent)

P16-32A Preparing a schedule of cost of goods manufactured and an income statement for a manufacturing company
Learning Objectives 2, 4
COGM: $169,000

Certain item descriptions and amounts are missing from the monthly schedule of cost of goods manufactured and income statement of Chili Manufacturing Company. Fill in the blanks with the missing words, and replace the Xs with the correct amounts.

CHILI MANUFACTURING COMPANY ____________________ ____________ June 30, 2016			
Beginning ____________			$ 21,000
Direct __________:			
Beginning Raw Materials Inventory	$ X		
Purchases of Raw Materials	58,000		
____________	84,000		
Ending Raw Materials Inventory	(24,000)		
Direct __________		$ X	
Direct __________		X	
Manufacturing Overhead		40,000	
Total ______ Costs ______			171,000
Total ______ Costs ______			X
Ending ____________			(23,000)
____________			$ X

CHILI MANUFACTURING COMPANY ____________________ ____________ June 30, 2016		
Sales Revenue		$ X
Cost of Goods Sold:		
Beginning ____________	$ 112,000	
____________	X	
Cost of Goods __________	X	
Ending ____________	X	
Cost of Goods Sold		212,000
Gross Profit		298,000
____________ Expenses:		
Selling Expenses	95,000	
Administrative Expenses	X	
Total ____________		156,000
__________ Income		$ X

SOLUTION

CHILI MANUFACTURING COMPANY
Schedule of Cost of Goods Manufactured
Month Ended June 30, 2016

Beginning Work-in-Process Inventory			$ 21,000
Direct Materials Used:			
Beginning Raw Materials Inventory	$ **26,000**		
Purchases of Raw Materials	58,000		
Raw Materials Available for Use	84,000		
Ending Raw Materials Inventory	(24,000)		
Direct Materials Used		**60,000**	
Direct Labor		**71,000**	
Manufacturing Overhead		40,000	
Total Manufacturing Costs Incurred During the Month			171,000
Total Manufacturing Costs to Account For			**192,000**
Ending Work-in-Process Inventory			(23,000)
Cost of Goods Manufactured			$ **169,000**

Missing Amounts:

Beginning Raw Materials Inventory:

Raw Materials Available for Use	$ 84,000
Purchases of Raw Materials	(58,000)
Beginning Raw Materials Inventory	$ 26,000

Direct Materials Used:

Raw Materials Available for Use	$ 84,000
Ending Raw Materials Inventory	(24,000)
Direct Materials Used	$ 60,000

Direct Labor:

Total Manufacturing Costs Incurred During the Month	$ 171,000
Manufacturing Overhead	(40,000)
Direct Materials Used [calculated above]	(60,000)
Direct Labor	$ 71,000

P16-32A, cont.

Total Manufacturing Costs to Account For:

Beginning Work-in-Process Inventory	$ 21,000
Total Manufacturing Costs Incurred During the Month	171,000
Total Manufacturing Costs to Account For	$ 192,000

Cost of Goods Manufactured:

Total Manufacturing Costs to Account For [calculated above]	$ 192,000
Ending Work-in-Process Inventory	(23,000)
Cost of Goods Manufactured	$ 169,000

CHILI MANUFACTURING COMPANY
Income Statement
Month Ended June 30, 2016

Sales Revenue		$ **510,000**
Cost of Goods Sold:		
Beginning Finished Goods Inventory	$ 112,000	
Cost of Goods Manufactured	**169,000**	
Cost of Goods Available for Sale	**281,000**	
Ending Finished Goods Inventory	**(69,000)**	
Cost of Goods Sold		212,000
Gross Profit		298,000
Selling and Administrative Expenses:		
Selling Expenses	95,000	
Administrative Expenses	**61,000**	
Total Selling and Administrative Expenses		156,000
Operating Income		$ **142,000**

Missing Amounts:

Sales Revenue:

Cost of Goods Sold	$ 212,000
Gross Profit	298,000
Sales Revenue	$ 510,000

P16-32A, cont.

Cost of Goods Manufactured:
[From the Schedule of Cost of Goods Manufactured]

Cost of Goods Available for Sale:

Beginning Finished Goods Inventory	$ 112,000
Cost of Goods Manufactured	169,000
Cost of Goods Available for Sale	$ 281,000

Ending Finished Goods Inventory:

Cost of Goods Available for Sale [calculated above]	$ 281,000
Cost of Goods Sold	(212,000)
Ending Finished Goods Inventory	$ 69,000

Administrative Expenses:

Total Selling and Administrative Expenses	$ 156,000
Selling Expenses	(95,000)
Administrative Expenses	$ 61,000

Operating Income:

Gross Profit	$ 298,000
Total Selling and Administrative Expenses	(156,000)
Operating Income	$ 142,000

P16-33A Determining flow of costs through a manufacturer's inventory accounts
Learning Objective 4
3. $18,680,000

West Shoe Company makes loafers. During the most recent year, West incurred total manufacturing costs of $19,600,000. Of this amount, $2,700,000 was direct materials used and $12,800,000 was direct labor. Beginning balances for the year were Raw Materials Inventory, $500,000; Work-in-Process Inventory, $800,000; and Finished Goods Inventory, $500,000. At the end of the year, balances were Raw Materials Inventory, $700,000; Work- in-Process Inventory, $1,600,000; and Finished Goods Inventory, $620,000.

Requirements
Analyze the inventory accounts to determine:
1. Cost of raw materials purchased during the year.
2. Cost of goods manufactured for the year.
3. Cost of goods sold for the year.

SOLUTION

Requirement 1

Cost of raw materials purchased:

Direct Materials Used	=	Beginning Raw Materials Inventory	+	Cost of Raw Materials Purchased	–	Ending Raw Materials Inventory

Solving for cost of raw materials purchased:

Cost of Raw Materials Purchased	=	Direct Materials Used	+	Ending Raw Materials Inventory	–	Beginning Raw Materials Inventory
	=	$2,700,000	+	$700,000	–	$500,000
	=	$2,900,000				

Requirement 2

Cost of goods manufactured for the year:

Cost of Goods Manufactured	=	Beginning Work-in-Process Inventory	+	Total Manufacturing Costs Incurred	–	Ending Work-in-Process Inventory
	=	$800,000	+	$19,600,000	–	$1,600,000
	=	$18,800,000				

Requirement 3

Cost of goods sold for the year:

Cost of Goods Sold	=	Beginning Finished Goods Inventory	+	Cost of Goods Manufactured	–	Ending Finished Goods Inventory
	=	$500,000	+	$18,800,000 [calculated in 2]	–	$620,000
	=	$18,680,000				

Problems (Group B)

P16-34B Applying ethical standards, management accountability
Learning Objective 1

Ava Borzi is the new controller for Halo Software, Inc. which develops and sells education software. Shortly before the December 31 fiscal year-end, Jeremy Busch, the company president, asks Borzi how things look for the year-end numbers. He is not happy to learn that earnings growth may be below 9% for the first time in the company's five-year history. Busch explains that financial analysts have again predicted a 9% earnings growth for the company and that he does not intend to disappoint them. He suggests that Borzi talk to the assistant controller, who can explain how the previous controller dealt with such situations. The assistant controller suggests the following strategies:

a. Persuade suppliers to postpone billing $18,000 in invoices until January 1.
b. Record as sales $120,000 in certain software awaiting sale that is held in a public warehouse.
c. Delay the year-end closing a few days into January of the next year so that some of the next year's sales are included in this year's sales.
d. Reduce the estimated Bad Debts Expense from 3% of Sales Revenue to 2%, given the company's continued strong performance.
e. Postpone routine monthly maintenance expenditures from December to January.

Requirements

1. Which of these suggested strategies are inconsistent with IMA standards?
2. How might these inconsistencies affect the company's stakeholders?
3. What should Borzi do if Busch insists that she follow all of these suggestions?

SOLUTION

Students' responses will vary. Illustrative answers follow.

Requirement 1

a. If the goods have been received, postponing recording of the purchases understates liabilities. This is unethical and inconsistent with the IMA standards even if the suppliers agree to delay billing.
b. The software has not been sold. Therefore, it would be inconsistent with the IMA standards to record it as sales.
c. Delaying year-end closing incorrectly records next year's sales in this year's sales. This is unethical and inconsistent with the IMA standards.
d. The appropriate allowance for bad debts is a difficult judgment. The decision should not be driven by the desire to meet a profit goal. It should be based on the likelihood that the company will not collect the debts. We cannot determine this without more information. However, since the company emphasizes earnings growth, which can lead to sales to customers with weaker credit records, reducing the allowance seems questionable. It is not clear whether this strategy is inconsistent with the IMA standards.
e. If the maintenance is postponed, there is no transaction to record. This strategy is beyond the responsibility of the controller, so it does not violate IMA standards.

Requirement 2

Management accountability is management's responsibility to the various stakeholders of the company. Each group of stakeholders has an interest of some sort in the business. Stakeholders include suppliers, employees, customers, vendors, investors, creditors, governments, and communities. Managers are accountable to the stakeholders and have a responsibility to wisely manage the company's resources.

Managers provide information about their decisions and the results of those decisions to the stakeholders. Financial accounting provides financial statements that report results of operations, financial position, and cash flows both to managers and to external stakeholders. Managerial accounting provides the information needed to plan and control operations. Managers are responsible to many stakeholders, so they must plan and control operations carefully. Making decisions that cause the company to decline will affect many different groups, from investors to employees, and may have an economic impact on the entire community.

The inconsistencies noted for Halo Software, Inc. particularly impact the financial statement information provided by financial accounting to external stakeholders. They will be led to believe the operating performance(profitability) of the company is better than it really is. This misrepresentation may result in the investors holding the stock when they may have sold it with the correct information. Similarly, creditors may grant credit to the company with the false income information when they may not grant credit with the correct income information.

Requirement 3

The controller should resist attempts to implement a, b, and c and should gather more information about d. If the President ignores Borzi, then Borzi needs to consider if she wants to work for a company that engages in unethical behavior. Borzi should not be associated with unethical behavior and should resign.

P16-35B Classifying period costs and product costs
Learning Objective 3

Langley, Inc. is the manufacturer of lawn care equipment. The company incurs the following costs while manufacturing edgers:

- Handle and shaft of edger
- Motor of edger
- Factory labor for workers assembling edgers
- Lubricant used on bearings in the edger (not traced to the product)
- Glue to hold the housing together
- Plant janitorial wages
- Depreciation on factory equipment
- Rent on plant
- Sales commissions
- Administrative salaries
- Plant utilities
- Shipping costs to deliver finished edgers to customers

Requirements

1. Describe the difference between period costs and product costs.
2. Classify Langley's costs as period costs or product costs. If the costs are product costs, further classify them as direct materials, direct labor, or manufacturing overhead.

SOLUTION

Requirement 1

Period costs are operating costs that are expensed in the accounting period in which they are incurred.

Product costs are all costs of a product that GAAP requires companies to treat as an asset for external financial reporting. These costs are recorded as an asset (inventory) on the balance sheet until the asset is sold. The cost is then transferred to an expense account (Cost of Goods Sold) on the income statement. Product costs include direct materials, direct labor, and manufacturing overhead.

On the income statement, Cost of Goods Sold (product cost) is subtracted from Sales Revenue to determine gross profit. The period costs are then subtracted from gross profit to determine operating income.

Requirement 2

Cost:	Period Cost	Product Cost		
		Direct Materials	Direct Labor	Manufacturing Overhead
Handle and shaft of edger		X		
Motor of edger		X		
Factory labor for workers assembling edgers			X	
Lubricant used on bearings in the edger (not traced to the product)				X
Glue to hold housing together				X
Plant janitorial wages				X
Depreciation on factory equipment				X
Rent on plant				X
Sales commissions	X			
Administrative salaries	X			
Plant utilities				X
Shipping costs to deliver finished edgers to customers	X			

P16-36B Calculating cost of goods sold for merchandising and manufacturing companies
Learning Objectives 2, 4, 5
3. Company 2: $216,500

Below are data for two companies:

	Company 1	Company 2
Beginning balances:		
Merchandise Inventory	$ 10,800	
Finished Goods Inventory		$ 15,800
Ending balances:		
Merchandise Inventory	12,300	
Finished Goods Inventory		11,300
Net Purchases	153,500	
Cost of Goods Manufactured		212,000

Requirements
1. Define the three business types: service, merchandising, and manufacturing.
2. Based on the data given for the two companies, determine the business type of each one.
3. Calculate the cost of goods sold for each company.

SOLUTION

Requirement 1

Service companies sell services rather than products. They sell time, skills, and knowledge. Merchandising companies resell products previously bought from suppliers. Manufacturing companies use labor, equipment, supplies, and facilities to convert raw materials into new finished products.

Requirement 2

Company 1 is a merchandising company. Company 2 is a manufacturing company. The company type can be determined by the account names in the ledger.

Requirement 3

Company 1:

Beginning Merchandise Inventory	$ 10,800
Purchases (net)	153,500
Cost of Goods Available for Sale	164,300
Ending Merchandise Inventory	(12,300)
Cost of Goods Sold	$ 152,000

Company 2:

Beginning Finished Goods Inventory	$ 15,800
Cost of Goods Manufactured	212,000
Cost of Goods Available for Sale	227,800
Ending Finished Goods Inventory	(11,300)
Cost of Goods Sold	$ 216,500

P16-37B Preparing an income statement and calculating unit cost for a service company
Learning Objectives 2, 5
2. $166.40

The Windshield Doctors repair chips in car windshields. The company incurred the following operating costs for the month of July 2016:

Salaries and wages	$ 7,000
Windshield repair materials	4,200
Depreciation on truck	450
Depreciation on building and equipment	1,200
Supplies used	300
Utilities	3,490

The Windshield Doctors earned $26,000 in revenues for the month of July by repairing 100 windshields. All costs shown are considered to be directly related to the repair service.

Requirements

1. Prepare an income statement for the month of July.
2. Compute the cost per unit of repairing one windshield, rounded to the nearest cent.
3. The manager of The Windshield Doctors must keep unit operating cost below $150 per windshield in order to get his bonus. Did he meet the goal?

SOLUTION

Requirement 1

THE WINDSHIELD DOCTORS		
Income Statement		
Month Ended July 31, 2016		
Revenues:		
Sales Revenue		$ 26,000
Expenses:		
Salaries and Wages Expense	$ 7,000	
Materials Expense	4,200	
Depreciation Expense—Truck	450	
Depreciation Expense—Building and Equipment	1,200	
Supplies Expense	300	
Utilities Expense	3,490	
Total Expenses		16,640
Net Income		$ 9,360

Requirement 2

Unit cost = Total expenses / Total windshields repaired

= \$16,640 / 100 windshields

= \$166.40 per windshield

Requirement 3

No. The actual unit cost per windshield of \$166.40 is greater than \$150.

P16-38B Preparing an income statement and calculating unit cost for a merchandising company
Learning Objectives 2, 5
1. Net income: $13,300

Clyde Synder owns Clyde's Pets, a small retail shop selling pet supplies. On December 31, 2016, the accounting records for Clyde's Pets showed the following:

Inventory on December 31, 2016	$ 10,250
Inventory on January 1, 2016	15,400
Sales Revenue	58,000
Utilities Expense for the shop	3,100
Rent for the shop	4,700
Sales Commissions	2,750
Purchases of Merchandise Inventory	29,000

Requirements

1. Prepare an income statement for Clyde's Pets for the year ended December 31, 2016.
2. Clyde's Pets sold 3,200 units. Determine the unit cost of the merchandise sold, rounded to the nearest cent.

SOLUTION

Requirement 1

CLYDE'S PETS
Income Statement
Year Ended December 31, 2016

Revenues:		
Sales Revenue		$ 58,000
Cost of Goods Sold:		
Beginning Merchandise Inventory	$ 15,400	
Purchases of Merchandise	29,000	
Cost of Goods Available for Sale	44,400	
Ending Merchandise Inventory	(10,250)	
Cost of Goods Sold		34,150
Gross Profit		23,850
Selling and Administrative Expenses:		
Utilities Expense	3,100	
Rent Expense	4,700	
Sales Commission Expense	2,750	
Total Selling and Administrative Expenses		10,550
Net Income		$ 13,300

Requirement 2

Unit cost = Cost of goods sold / Total units sold

= $34,150 / 3,200 units

= $10.67 per unit (rounded to the nearest cent)

P16-39B Preparing a schedule of cost of goods manufactured and an income statement for a manufacturing company
Learning Objectives 2, 4
2. Net income: $43,000

Organic Bones manufactures its own brand of pet chew bones. At the end of December 2016, the accounting records showed the following:

Inventories:	**Beginning**	**Ending**
Raw Materials	$ 13,100	$ 9,000
Work-in-Process	0	3,500
Finished Goods	0	5,800
Other information:		
Raw materials purchases		$ 30,000
Plant janitorial services		400
Sales salaries		5,200
Delivery costs		1,900
Sales revenue		114,000
Utilities for plant		1,700
Rent on plant		15,000
Customer service hotline costs		1,000
Direct labor		21,000

Requirements

1. Prepare a schedule of cost of goods manufactured for Organic Bones for the year ended December 31, 2016.
2. Prepare an income statement for Organic Bones for the year ended December 31, 2016.
3. How does the format of the income statement for Organic Bones differ from the income statement of a merchandiser?
4. Organic Bones manufactured 17,400 units of its product in 2016. Compute the company's unit product cost for the year, rounded to the nearest cent.

SOLUTION

Requirement 1

ORGANIC BONES Schedule of Cost of Goods Manufactured Year Ended December 31, 2016			
Beginning Work-in-Process Inventory			$ 0
Direct Materials Used:			
Beginning Raw Materials Inventory	$ 13,100		
Purchases of Raw Materials	30,000		
Raw Materials Available for Use	43,100		
Ending Raw Materials Inventory	(9,000)		
Direct Materials Used		$ 34,100	
Direct Labor		21,000	
Manufacturing Overhead:			
Plant janitorial services	400		
Utilities for plant	1,700		
Rent on plant	15,000		
Total Manufacturing Overhead		17,100	
Total Manufacturing Costs Incurred during the Year			72,200
Total Manufacturing Costs to Account For			72,200
Ending Work-in-Process Inventory			(3,500)
Cost of Goods Manufactured			$ 68,700

P16-39B, cont.
Requirement 2

ORGANIC BONES Income Statement Year Ended December 31, 2016		
Revenues:		
Sales Revenue		$ 114,000
Cost of Goods Sold:		
Beginning Finished Goods Inventory	$ 0	
Cost of Goods Manufactured*	68,700	
Cost of Goods Available for Sale	68,700	
Ending Finished Goods Inventory	(5,800)	
Cost of Goods Sold		62,900
Gross Profit		51,100
Selling and Administrative Expenses:		
Sales Salaries Expense	5,200	
Delivery Expense	1,900	
Customer Service Hotline Expense	1,000	
Total Selling and Administrative Expenses		8,100
Net Income (Loss)		$ 43,000

* From the Schedule of Cost of Goods Manufactured in Requirement 1.

Requirement 3

For a manufacturing company, cost of goods sold on the income statement is based on cost of goods manufactured and the change in Finished Goods Inventory. For a merchandising company, cost of goods sold on the income statement is based on cost of merchandise purchased (including freight in) and the change in Merchandise Inventory.

Requirement 4

Unit cost	=	Cost of goods manufactured / Total units produced
	=	$68,700 / 17,400 units
	=	$3.95 per unit (rounded to the nearest cent)

P16-40B Preparing a schedule of cost of goods manufactured and an income statement for a manufacturing company
Learning Objectives 2, 4
COGM: $191,000

Certain item descriptions and amounts are missing from the monthly schedule of cost of goods manufactured and income statement of Maria Manufacturing Company. Fill in the blanks with the missing words, and replace the Xs with the correct amounts.

MARIA MANUFACTURING COMPANY ____________________ __________ June 30, 2016			
Beginning ____________			$ 29,000
Direct ________:			
Beginning Raw Materials Inventory	$ X		
Purchases of Raw Materials	56,000		
________________	81,000		
Ending Raw Materials Inventory	(21,000)		
Direct ________		$ X	
Direct ________		X	
Manufacturing Overhead		49,000	
Total ______ Costs ______			184,000
Total ______ Costs ______			X
Ending ____________			(22,000)
________________			$ X

MARIA MANUFACTURING COMPANY ____________________ __________ June 30, 2016		
Sales Revenue		$ X
Cost of Goods Sold:		
Beginning __________	$ 116,000	
________________	X	
Cost of Goods ________	X	
Ending __________	X	
Cost of Goods Sold		241,000
Gross Profit		229,000
__________ Expenses:		
Selling Expenses	98,000	
Administrative Expenses	X	
Total ____________		165,000
________ Income		$ X

SOLUTION

MARIA MANUFACTURING COMPANY Schedule of Cost of Goods Manufactured Month Ended June 30, 2016			
Beginning Work-in-Process Inventory			$ 29,000
Direct Materials Used:			
Beginning Raw Materials Inventory	$ **25,000**		
Purchases of Raw Materials	56,000		
Raw Materials Available for Use	81,000		
Ending Raw Materials Inventory	(21,000)		
Direct Materials Used		$ **60,000**	
Direct Labor		**75,000**	
Manufacturing Overhead		49,000	
Total Manufacturing Costs Incurred During the Month			184,000
Total Manufacturing Costs to Account For			**213,000**
Ending Work-in-Process Inventory			(22,000)
Cost of Goods Manufactured			$ **191,000**

Missing Amounts:

Beginning Raw Materials Inventory:

Raw Materials Available for Use	$ 81,000
Purchases of Raw Materials	(56,000)
Beginning Raw Materials Inventory	$ 25,000

Direct Materials Used:

Raw Materials Available for Use	$ 81,000
Ending Raw Materials Inventory	(21,000)
Direct Materials Used	$ 60,000

Direct Labor:

Total Manufacturing Costs Incurred During the Month	$ 184,000
Manufacturing Overhead	(49,000)
Direct Materials Used [calculated above]	(60,000)
Direct Labor	$ 75,000

P16-40B, cont.

Total Manufacturing Costs to Account For:

Beginning Work-in-Process Inventory	$ 29,000
Total Manufacturing Costs Incurred During the Month	184,000
Total Manufacturing Costs to Account For	$ 213,000

Cost of Goods Manufactured:

Total Manufacturing Costs to Account For [calculated above]	$ 213,000
Ending Work-in-Process Inventory	(22,000)
Cost of Goods Manufactured	$ 191,000

MARIA MANUFACTURING COMPANY
Income Statement
Month Ended June 30, 2016

Sales Revenue		$ **470,000**
Cost of Goods Sold:		
Beginning Finished Goods Inventory	$ 116,000	
Cost of Goods Manufactured	**191,000**	
Cost of Goods Available for Sale	**307,000**	
Ending Finished Goods Inventory	**(66,000)**	
Cost of Goods Sold		241,000
Gross Profit		229,000
Selling and Administrative Expenses:		
Selling Expenses	98,000	
Administrative Expenses	**67,000**	
Total Selling and Administrative Expenses		165,000
Operating Income		$ **64,000**

Missing Amounts:

Sales Revenue:

Cost of Goods Sold	$ 241,000
Gross Profit	229,000
Sales Revenue	$ 470,000

P16-40B, cont.

Cost of Goods Manufactured:
[From the Schedule of Cost of Goods Manufactured]

Cost of Goods Available for Sale:

Beginning Finished Goods Inventory	$ 116,000
Cost of Goods Manufactured	191,000
Cost of Goods Available for Sale	$ 307,000

Ending Finished Goods Inventory:

Cost of Goods Available for Sale [calculated above]	$ 307,000
Cost of Goods Sold	(241,000)
Ending Finished Goods Inventory	$ 66,000

Administrative Expenses:

Total Selling and Administrative Expenses	$ 165,000
Selling Expenses	(98,000)
Administrative Expenses	$ 67,000

Operating Income:

Gross Profit	$ 229,000
Total Selling and Administrative Expenses	(165,000)
Operating Income	$ 64,000

P16-41B Determining the flow of costs through a manufacturer's inventory accounts
Learning Objective 4
3. $23,670,000

Best Shoe Company makes loafers. During the most recent year, Best incurred total manufacturing costs of $24,300,000. Of this amount, $2,200,000 was direct materials used and $17,800,000 was direct labor. Beginning balances for the year were Raw Materials Inventory, $700,000; Work-in-Process Inventory, $900,000; and Finished Goods Inventory, $900,000. At the end of the year, balances were Raw Materials Inventory, $900,000; Work-in-Process Inventory, $1,700,000; and Finished Goods Inventory, $730,000.

Requirements
Analyze the inventory accounts to determine:
1. Cost of raw materials purchased during the year.
2. Cost of goods manufactured for the year.
3. Cost of goods sold for the year.

SOLUTION

Requirement 1

Cost of raw materials purchased during the year:

Direct Materials Used	=	Beginning Raw Materials Inventory	+	Cost of Raw Materials Purchased	–	Ending Raw Materials Inventory

Solving for cost of raw materials purchased:

Cost of Raw Materials Purchased	=	Direct Materials Used	+	Ending Raw Materials Inventory	–	Beginning Raw Materials Inventory
	=	$2,200,000	+	$900,000	–	$700,000
	=	$2,400,000				

Requirement 2

Cost of goods manufactured for the year:

Cost of Goods Manufactured	=	Beginning Work-in-Process Inventory	+	Total Manufacturing Costs Incurred	–	Ending Work-in-Process Inventory
	=	$900,000	+	$24,300,000	–	$1,700,000
	=	$23,500,000				

Requirement 3

Cost of goods sold for the year:

Cost of Goods Sold	=	Beginning Finished Goods Inventory	+	Cost of Goods Manufactured	–	Ending Finished Goods Inventory
	=	$900,000	+	$23,500,000 [calculated in 2]	–	$730,000
	=	$23,670,000				

Continuing Problem

Problem P16-42 is the first problem in a sequence of problems for Daniels Consulting. This company was also used for the Continuing Problems in the financial accounting chapters as the business evolved from a service company to a merchandising company. However, it is not necessary to complete those problems prior to completing P16-42.

P16-42

Daniels Consulting is going to manufacture billing software. During its first month of manufacturing, Daniels incurred the following manufacturing costs:

Inventories:	**Beginning**	**Ending**
Raw Materials	$ 10,800	$ 9,600
Work-in-Process	0	23,000
Finished Goods	0	29,000
Other information:		
Raw materials purchases		$ 18,000
Plant janitorial services		200
Sales salaries expense		7,000
Delivery expense		1,100
Sales revenue		1,075,000
Utilities for plant		11,000
Rent on plant		12,000
Customer service hotline costs		12,000
Direct labor		200,000

Prepare a schedule of cost of goods manufactured for Daniels for the month ended January 31, 2018.

SOLUTION

DANIELS CONSULTING, INC. Schedule of Cost of Goods Manufactured Month Ended January 31, 2018			
Beginning Work-in-Process Inventory			$ 0
Direct Materials Used:			
Beginning Raw Materials Inventory	$ 10,800		
Purchases of Raw Materials	18,000		
Raw Materials Available for Use	28,800		
Ending Raw Materials Inventory	(9,600)		
Direct Materials Used		$ 19,200	
Direct Labor		200,000	
Manufacturing Overhead:			
Plant janitorial services	200		
Utilities for plant	11,000		
Rent on plant	12,000		
Total Manufacturing Overhead		23,200	
Total Manufacturing Costs Incurred during the Month			242,400
Total Manufacturing Costs to Account For			242,400
Ending Work-in-Process Inventory			(23,000)
Cost of Goods Manufactured			$ 219,400

Critical Thinking

Decision Case 16-1

PowerSwitch, Inc. designs and manufactures switches used in telecommunications. Serious flooding throughout North Carolina affected Power Switch's facilities. Inventory was completely ruined, and the company's computer system, including all accounting records, was destroyed.

Before the disaster recovery specialists clean the buildings, Stephen Plum, the company controller, is anxious to salvage whatever records he can to support an insurance claim for the destroyed inventory. He is standing in what is left of the accounting department with Paul Lopez, the cost accountant.

"I didn't know mud could smell so bad," Paul says. "What should I be looking for?"

"Don't worry about beginning inventory numbers," responds Stephen, "we'll get them from last year's annual report. We need first-quarter cost data."

"I was working on the first-quarter results just before the storm hit," Paul says. "Look, my report is still in my desk drawer. All I can make out is that for the first quarter, material purchases were $476,000 and direct labor, manufacturing overhead, and total manufacturing costs to account for were $505,000, $245,000, and $1,425,000, respectively. Wait! Cost of goods available for sale was $1,340,000."

"Great," says Stephen. "I remember that sales for the period were approximately $1,700,000. Given our gross profit of 30%, that's all you should need."

Paul is not sure about that but decides to see what he can do with this information. The beginning inventory numbers were:

- Raw Materials, $113,000
- Work-in-Process, $229,000
- Finished Goods, $154,000

Requirements

1. Prepare a schedule showing each inventory account and the increases and decreases to each account. Use it to determine the ending inventories of Raw Materials, Work-in-Process, and Finished Goods.
2. Itemize a list of the cost of inventory lost.

SOLUTION

Requirement 1

Shown in the schedule, below, the ending inventories are: Raw Materials Inventory, $143,000; Work-in-Process Inventory, $239,000; and Finished Goods Inventory, $150,000.

POWERSWITCH, INC.
Flow of Costs Schedule
For the 1st Quarter

Raw Materials Inventory		**Work-in-Process Inventory**		**Finished Goods Inventory**	
Beginning Inventory	$ 113,000 *	Beginning Inventory	$ 229,000 *	Beginning Inventory	$ 154,000 *
+ Purchases	476,000 *	+ Direct Materials Used	446,000 [e]	+ Cost of Goods Manufactured	1,186,000 [c]
		+ Direct Labor	505,000 *		
		+ Manufacturing Overhead	245,000 *		
= Raw Materials Available for Use	589,000	= Total Manufacturing Costs to Account For	1,425,000 *	= Cost of Goods Available for Sale	1,340,000 *
− Ending Inventory	143,000 [f]	− Ending Inventory	239,000 [d]	− Ending Inventory	150,000 [b]
= Direct Materials Used	$ 446,000 [e]	= Cost of Goods Manufactured	$ 1,186,000 [c]	= Cost of Goods Sold	$ 1,190,000 [a]

* Denotes amounts given in the case.

Calculations for amounts denoted with a superscript letters are provided below.

Decision Case 16-1, cont.

<u>Calculations:</u>

[a] Cost of Goods Sold:

Sales	×	(1 – Gross Profit %)	=	Cost of Goods Sold
$1,700,000	×	(1 – 30%)	=	$1,190,000
$1,700,000	×	70%	=	$1,190,000

[b] Ending Finished Goods Inventory:

Cost of Goods Available for Sale	–	Ending Finished Goods Inventory	=	Cost of Goods Sold
$1,340,000	–	Ending Finished Goods Inventory	=	$1,190,000
Therefore:		Ending Finished Goods Inventory	=	$150,000

[c] Cost of Goods Manufactured:

Beginning Finished Goods Inventory	+	Cost of Goods Manufactured	=	Cost of Goods Available for Sale
$154,000	+	Cost of Goods Manufactured	=	$1,340,000
Therefore:		Cost of Goods Manufactured	=	$1,186,000

[d] Ending Work-in-Process Inventory:

Total Manufacturing Costs to Account For	–	Ending Work-in-Process Inventory	=	Cost of Goods Manufactured
$1,425,000	–	Ending Work-in-Process Inventory	=	$1,186,000
Therefore:		Ending Work-in-Process Inventory	=	$ 239,000

Decision Case 16-1, cont.

[e] Direct Materials Used:

Beginning Work-in-Process Inventory	+	Direct Materials Used	+	Direct Labor	+	Manufacturing Overhead	=	Total Manufacturing Costs to Account For
$229,000	+	Direct Materials Used	+	$505,000	+	$245,000	=	$1,425,000
Therefore:		Direct Materials Used					=	$ 446,000

[f] Ending Raw Materials Inventory:

Raw Materials Available for Use	–	Ending Raw Materials Inventory	=	Direct Materials Used
$589,000	–	Ending Raw Materials Inventory	=	$446,000
Therefore:		Ending Raw Materials Inventory	=	$143,000

Requirement 2

Inventory lost in the flood:

Raw Materials Inventory	$143,000
Work-in-Process Inventory	239,000
Finished Goods Inventory	150,000
Total Inventory	$532,000

Ethical Issue 16-1

Becky Knauer recently resigned from her position as controller for Shamalay Automotive, a small, struggling foreign car dealer in Upper Saddle River, New Jersey. Becky has just started a new job as controller for Mueller Imports, a much larger dealer for the same car manufacturer. Demand for this particular make of car is exploding, and the manufacturer cannot produce enough to satisfy demand. The manufacturer's regional sales managers are each given a certain number of cars. Each sales manager then decides how to divide the cars among the independently owned dealerships in the region. Because of high demand for these cars, dealerships all want to receive as many cars as they can from the regional sales manager.

Becky's former employer, Shamalay Automotive, receives only about 25 cars each month. Consequently, Shamalay is not very profitable.

Becky is surprised to learn that her new employer, Mueller Imports, receives more than 200 cars each month. Becky soon gets another surprise. Every couple of months, a local jeweler bills the dealer $5,000 for "miscellaneous services." Franz Mueller, the owner of the dealership, personally approves payment of these invoices, noting that each invoice is a "selling expense." From casual conversations with a sales- person, Becky learns that Mueller frequently gives Rolex watches to the manufacturer's regional sales manager and other sales executives. Before talking to anyone about this, Becky decides to work through her ethical dilemma. Put yourself in Becky's place.

Requirements

1. What is the ethical issue?
2. What are your options?
3. What are the possible consequences?
4. What should you do?

SOLUTION

Students' responses will vary. Illustrative answers follow.

a. The ethical issue facing Becky is deciding what to do about the gifts to the sales managers. Although small "courtesy" gifts are accepted practice in the world of sales, the regular basis and the high value of these items (especially jewelry) suggest that the owner is bribing the sales managers and other sales executives to receive a large allocation of cars.

b. The options include:
   (1) Do nothing,
   (2) Discuss the matter with the owner,
   (3) Resign if the owner will not stop the practice, or
   (4) Inform the manufacturer.

c. The possible consequences include:

1. If Becky does nothing, her job and those of the other employees may remain secure for the time being. However, as controller she could be held accountable for laundering a bribe if the scheme became public. A lawsuit brought by other dealers who did not receive a fair share of available cars could name her as an involved party. If Becky is a CPA, she could also lose her CPA license.

   There are also potential tax consequences to consider. Since the jewelry expenditures are being recorded as selling expenses, it is likely that this amount is being deducted on the company's tax return. The IRS limits deductions of gifts to $25 per person per year. Since a Rolex watch far exceeds the cost of $25, Becky's failure to disclose the true nature of the expense may make her liable for underreporting the company's tax liability.

2. If Becky discusses the matter with the owner, she might find out that there is another side to the story and in fact there is no wrongdoing or ethical dilemma. However, this seems unlikely given the facts. It also seems unlikely that the owner will end this practice since it enhances the dealership's profits. However, Becky may have some influence on Mueller if she explains the dangers of continuing the bribes. Mueller could be sued by other dealers, or the manufacturer could cancel his dealership. Such outcomes would affect all the dealership's employees, not just Mueller. If Mueller refuses to change his ways, then Becky is in an even more difficult position because she now has direct knowledge of the bribery.

3. By resigning, Becky loses her job but protects her integrity and avoids being involved in a subsequent action against the dealership if the bribery becomes known.

4. Perhaps an even more difficult question is whether Becky should inform the manufacturer about the bribery. If Becky has not already resigned, Mueller probably would fire her for taking this action.

d. Accountants should never become party to, or appear to be involved in, an unethical (and possibly illegal) situation such as this. This is especially true for persons with fiduciary responsibilities like a controller. Becky should discuss her concerns with the owner. If Mueller is indeed bribing the sales representatives and refuses to stop this practice, Becky should inform the manufacturer, or she should resign.

Communication Activity 16-1

In 100 words or fewer, explain the difference between product costs and period costs. In your explanation, explain the inventory accounts of a manufacturer.

SOLUTION

Period costs are operating costs that are expensed in the same accounting period in which they are incurred, whereas product costs are recorded as an asset and not expensed until the accounting period in which the product is sold. Period costs are all costs not considered product costs.

Manufacturing companies track costs on three kinds of inventory. Raw Materials Inventory includes materials used to manufacture a product. Work-in-Process Inventory includes goods that have been started in the manufacturing process but are not yet complete. Finished Goods Inventory includes completed goods that have not yet been sold.

