

Chapter 18

Introduction to Managerial Accounting

Review Questions

1. The primary purpose of managerial accounting is to provide information to help managers plan and control operations.
2. 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. 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. 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. 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.

5., cont.

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. 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. 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. 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. 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. 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.** 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.** 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.** 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.** 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.** 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.** 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.** 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. A manufacturing company calculates unit product cost as $\text{Cost of Goods Manufactured} / \text{Total number of units produced}$.
19. A service company calculates unit cost per service as $\text{Total Costs} / \text{Total number of services provided}$.
20. A merchandising company calculates unit cost per item as $\text{Total Cost of Goods Sold} / \text{Total number of items sold}$.

Short Exercises

S18-1

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

S18-2

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

S18-3

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

S18-4

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

S18-5

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

S18-6Solutions: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)

S18-7

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

S18-8

| | |
|---------------------------------|------------------|
| Glue for frames | \$ 200 |
| Plant depreciation | 6,000 |
| Plant foreman's salary | 3,000 |
| Plant janitor's wages | 1,100 |
| Oil for manufacturing equipment | <u>150</u> |
| Total manufacturing overhead | <u>\$ 10,450</u> |

S18-9

- 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

S18-10

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

S18-11

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

S18-12

| | |
|------------------------------------|-------------------|
| Beginning Finished Goods Inventory | \$ 32,000 |
| Cost of Goods Manufactured | <u>160,000</u> |
| Cost of Goods Available for Sale | 192,000 |
| Ending Finished Goods Inventory | <u>(17,000)</u> |
| Cost of Goods Sold | <u>\$ 175,000</u> |

S18-13

$$\begin{aligned}
 \text{Cost of one haircut} &= \text{Total operating costs} / \text{Total number of haircuts} \\
 &= [\$375 + \$1,321 + \$150 + \$50] / 240 \text{ haircuts} \\
 &= \$1,896 / 240 \text{ haircuts} \\
 &= \$7.90 \text{ per haircut}
 \end{aligned}$$

Exercises

E18-14

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

E18-15

- a. JIT
- b. TQM
- c. ERP
- d. E-Commerce

E18-16

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 her immediate supervisor or the company's president 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.

E18-17

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

E18-18

Company A (all amounts in millions):

| | | |
|--------------------------|----------|--------------------|
| Sales Revenue | | \$ 28 |
| Cost of Goods Sold | | <u>21</u> |
| Gross Profit | | 7 |
| Operating Expenses: | | |
| Selling Expenses | \$ 2 | |
| Administrative Expenses | <u>1</u> | |
| Total Operating Expenses | | <u>3</u> |
| Operating Income | | <u><u>\$ 4</u></u> |

Company B (all amounts in millions):

| | | |
|------------------|----------|---------------------|
| Service Revenue | | \$ 54 |
| Expenses: | | |
| Wages Expense | \$ 16 | |
| Rent Expense | <u>9</u> | |
| Total Expenses | | <u>25</u> |
| Operating Income | | <u><u>\$ 29</u></u> |

Company C (all amounts in millions):

| | | |
|--------------------------|----------|--------------------|
| Sales Revenue | | \$ 28 |
| Cost of Goods Sold | | <u>16</u> |
| Gross Profit | | 12 |
| Operating Expenses: | | |
| Selling Expenses | \$ 2 | |
| Administrative Expenses | <u>5</u> | |
| Total Operating Expenses | | <u>7</u> |
| Operating Income | | <u><u>\$ 5</u></u> |

E18-19

Company A (all amounts in millions):

| | |
|---------------------------|--------------|
| Cash | \$ 5 |
| Accounts Receivable | 6 |
| Raw Materials Inventory | 10 |
| Work-in-Process Inventory | 1 |
| Finished Goods Inventory | <u>1</u> |
| Total current assets | <u>\$ 23</u> |

Company B (all amounts in millions):

| | |
|----------------------|--------------|
| Cash | \$ 14 |
| Accounts Receivable | <u>6</u> |
| Total current assets | <u>\$ 20</u> |

Company C (all amounts in millions):

| | |
|-----------------------|--------------|
| Cash | \$ 27 |
| Accounts Receivable | 16 |
| Merchandise Inventory | <u>8</u> |
| Total current assets | <u>\$ 51</u> |

E18-20

| Cost | Product | | | Product | | Period | |
|-------------------------------------|----------------|-----------|------------|----------------|-------------------|----------------|--------------|
| | DM | DL | MOH | Prime | Conversion | Selling | Admin |
| a. <i>Metal used for rims</i> | <i>X</i> | | | <i>X</i> | | | |
| 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 | |

E18-21

(a)

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

(b)

| | |
|--|------------------|
| Total Manufacturing Costs Incurred during the Year | \$ 45,100 |
| Direct Materials Used | (14,800) |
| Direct Labor | (10,100) |
| Manufacturing Overhead | <u>\$ 20,200</u> |

(c)

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

(d)

| | |
|--|------------------|
| Direct Materials Used | \$ 35,400 |
| Direct Labor | 20,000 |
| Manufacturing Overhead | 10,300 |
| Total Manufacturing Costs Incurred during the Year | <u>\$ 65,700</u> |

(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 | <u>\$ 105,900</u> |

(f)

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

E18-21, cont.

(g)

| | |
|---|-----------------|
| Total Manufacturing Costs Incurred during the Year [h, below] | \$ 5,600 |
| Direct Labor | (1,800) |
| Manufacturing Overhead | <u>(600)</u> |
| Direct Materials Used | <u>\$ 3,200</u> |

(h)

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

(i)

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

E18-22**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

$$\begin{aligned}
 \text{Unit product cost} &= \text{Cost of goods manufactured} / \text{Total units produced} \\
 &= \$427,000 / 2,135 \text{ lamps} \\
 &= \$200 \text{ per lamp}
 \end{aligned}$$

E18-23

| | | |
|--|-----------------|--------------------------|
| 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 | <u>95,000</u> | |
| Ending Raw Materials Inventory | <u>(26,000)</u> | |
| Direct Materials Used | | \$ 69,000 |
| Direct Labor | | 89,000 |
| Manufacturing Overhead | | <u>42,000</u> |
| Total Manufacturing Costs Incurred During the Year | | <u>200,000</u> |
| Total Manufacturing Costs to Account For | | <u>238,000</u> |
| Ending Work-in-Process Inventory | | <u>(34,000)</u> |
| Cost of Goods Manufactured | | <u><u>\$ 204,000</u></u> |

| | | |
|------------------------------------|--------------------------|---------|
| Beginning Finished Goods Inventory | \$ 14,000 | |
| Cost of Goods Manufactured | <u>204,000</u> | [above] |
| Cost of Goods Available for Sale | 218,000 | |
| Ending Finished Goods Inventory | <u>(22,000)</u> | |
| Cost of Goods Sold | <u><u>\$ 196,000</u></u> | |

E18-24**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 | | <u>7,020</u> |
| Net Income | | <u>\$ 8,980</u> |

Requirement 2

$$\begin{aligned}
 \text{Cost of Service to Groom One Dog} &= \text{Total expenses} / \text{Total number of dogs groomed} \\
 &= \$7,020 / 600 \text{ dogs} \\
 &= \$11.70 \text{ per dog}
 \end{aligned}$$

E18-25**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 | | <u>50,544</u> |
| Gross Profit | | <u>46,656</u> |
| Selling and Administrative Expenses | | <u>34,020</u> |
| Operating Income | | <u>\$ 12,636</u> |

Requirement 2

$$\begin{aligned}
 \text{Unit cost for one brush} &= \text{Cost of goods sold} / \text{Total units sold} \\
 &= \$50,544 / 5,400 \text{ brushes} \\
 &= \$9.36 \text{ per brush}
 \end{aligned}$$

Problems (Group A)

P18-26A

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.

P18-26A, cont.
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.

P18-27A**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 | Direct Labor | 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 | | | |

P18-28A**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 | <u>168,400</u> |
| Ending Merchandise Inventory | (12,900) |
| Cost of Goods Sold | <u>\$ 155,500</u> |

Company B:

| | |
|------------------------------------|-------------------|
| Beginning Finished Goods Inventory | \$ 16,200 |
| Cost of Goods Manufactured | 214,500 |
| Cost of Goods Available for Sale | <u>230,700</u> |
| Ending Finished Goods Inventory | (12,100) |
| Cost of Goods Sold | <u>\$ 218,600</u> |

P18-29A
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 | | <u>14,030</u> |
| Net Income | | <u>\$ 12,970</u> |

Requirement 2

$$\begin{aligned}\text{Unit cost} &= \text{Total expenses} / \text{Total windshields repaired} \\ &= \$14,030 / 200 \text{ windshields} \\ &= \$70.15 \text{ per windshield}\end{aligned}$$

Requirement 3

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

P18-30A
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 | <u>44,100</u> | |
| Ending Merchandise Inventory | <u>(10,400)</u> | |
| Cost of Goods Sold | | <u>33,700</u> |
| Gross Profit | | 24,300 |
| Selling and Administrative Expenses: | | |
| Utilities Expense | 3,700 | |
| Rent Expense | 4,900 | |
| Sales Commission Expense | <u>2,950</u> | |
| Total Selling and Administrative Expenses | | <u>11,550</u> |
| Net Income | | <u>\$ 12,750</u> |

Requirement 2

$$\begin{aligned}\text{Unit cost} &= \text{Cost of goods sold} / \text{Total units sold} \\ &= \$33,700 / 5,450 \text{ units} \\ &= \$6.18 \text{ per unit (rounded to nearest cent)}\end{aligned}$$

P18-31A
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 | <u>43,100</u> | | |
| Ending Raw Materials Inventory | <u>(8,500)</u> | | |
| Direct Materials Used | | \$ 34,600 | |
| Direct Labor | | 18,000 | |
| Manufacturing Overhead: | | | |
| Plant janitorial services | 800 | | |
| Utilities for plant | 1,100 | | |
| Rent on plant | <u>16,000</u> | | |
| Total Manufacturing Overhead | | <u>17,900</u> | |
| Total Manufacturing Costs Incurred during the Year | | | <u>70,500</u> |
| Total Manufacturing Costs to Account For | | | 70,500 |
| Ending Work-in-Process Inventory | | | <u>(2,500)</u> |
| Cost of Goods Manufactured | | | <u>\$ 68,000</u> |

P18-31A, 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 | <u>68,000</u> | |
| Ending Finished Goods Inventory | <u>(5,700)</u> | |
| Cost of Goods Sold | | <u>62,300</u> |
| Gross Profit | | 42,700 |
| Selling and Administrative Expenses: | | |
| Sales Salaries Expense | 5,000 | |
| Delivery Expense | 1,800 | |
| Customer Service Hotline Expense | <u>1,000</u> | |
| Total Selling and Administrative Expenses | | <u>7,800</u> |
| Net Income (Loss) | | <u>\$ 34,900</u> |

* 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

$$\begin{aligned}\text{Unit product cost} &= \text{Cost of goods manufactured} / \text{Total units produced} \\ &= \$68,000 / 17,600 \text{ units} \\ &= \$3.86 \text{ per unit (rounded to nearest cent)}\end{aligned}$$

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

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

Missing Amounts:

Beginning Raw Materials Inventory:

| | |
|-----------------------------------|------------------|
| Raw Materials Available for Use | \$ 84,000 |
| Purchases of Raw Materials | (58,000) |
| Beginning Raw Materials Inventory | <u>\$ 26,000</u> |

Direct Materials Used:

| | |
|---------------------------------|------------------|
| Raw Materials Available for Use | \$ 84,000 |
| Ending Raw Materials Inventory | (24,000) |
| Direct Materials Used | <u>\$ 60,000</u> |

Direct Labor:

| | |
|---|------------------|
| Total Manufacturing Costs Incurred During the Month | \$ 171,000 |
| Manufacturing Overhead | (40,000) |
| Direct Materials Used [calculated above] | (60,000) |
| Direct Labor | <u>\$ 71,000</u> |

P18-32A, cont.

Total Manufacturing Costs to Account For:

| | |
|---|-------------------|
| Beginning Work-in-Process Inventory | \$ 21,000 |
| Total Manufacturing Costs Incurred During the Month | <u>171,000</u> |
| Total Manufacturing Costs to Account For | <u>\$ 192,000</u> |

Cost of Goods Manufactured:

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

CHILI MANUFACTURING COMPANY**Income Statement****Month Ended June 30, 2016**

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

Missing Amounts:

Sales Revenue:

| | |
|--------------------|--------------------------|
| Cost of Goods Sold | \$ 212,000 |
| Gross Profit | <u>298,000</u> |
| Sales Revenue | <u>\$ 510,000</u> |

P18-32A, 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 | <u>169,000</u> |
| Cost of Goods Available for Sale | <u>\$ 281,000</u> |

Ending Finished Goods Inventory:

| | |
|---|------------------|
| Cost of Goods Available for Sale [calculated above] | \$ 281,000 |
| Cost of Goods Sold | <u>(212,000)</u> |
| Ending Finished Goods Inventory | <u>\$ 69,000</u> |

Administrative Expenses:

| | |
|---|------------------|
| Total Selling and Administrative Expenses | \$ 156,000 |
| Selling Expenses | <u>(95,000)</u> |
| Administrative Expenses | <u>\$ 61,000</u> |

Operating Income:

| | |
|---|-------------------|
| Gross Profit | \$ 298,000 |
| Total Selling and Administrative Expenses | <u>(156,000)</u> |
| Operating Income | <u>\$ 142,000</u> |

P18-33A**Requirement 1**

Cost of raw materials purchased:

$$\begin{array}{rcccl} \text{Direct} & & \text{Beginning} & & \text{Cost of Raw} & & \text{Ending} \\ \text{Materials} & = & \text{Raw Materials} & + & \text{Materials} & - & \text{Raw Materials} \\ \text{Used} & & \text{Inventory} & & \text{Purchased} & & \text{Inventory} \end{array}$$

Solving for cost of raw materials purchased:

$$\begin{array}{rcccl} \text{Cost of Raw} & & \text{Direct} & & \text{Ending} & & \text{Beginning} \\ \text{Materials} & = & \text{Materials} & + & \text{Raw Materials} & - & \text{Raw Materials} \\ \text{Purchased} & & \text{Used} & & \text{Inventory} & & \text{Inventory} \\ & = & \$2,700,000 & + & \$700,000 & - & \$500,000 \\ & = & \$2,900,000 & & & & \end{array}$$

Requirement 2

Cost of goods manufactured for the year:

$$\begin{array}{rcccl} \text{Cost of} & & \text{Beginning} & & \text{Total} & & \text{Ending} \\ \text{Goods} & = & \text{Work-in-Process} & + & \text{Manufacturing} & - & \text{Work-in-Process} \\ \text{Manufactured} & & \text{Inventory} & & \text{Costs Incurred} & & \text{Inventory} \\ & = & \$800,000 & + & \$19,600,000 & - & \$1,600,000 \\ & = & \$18,800,000 & & & & \end{array}$$

Requirement 3

Cost of goods sold for the year:

$$\begin{array}{rcccl} \text{Cost of} & & \text{Beginning} & & \text{Cost of} & & \text{Ending} \\ \text{Goods} & = & \text{Finished Goods} & + & \text{Goods} & - & \text{Finished Goods} \\ \text{Sold} & & \text{Inventory} & & \text{Manufactured} & & \text{Inventory} \\ & = & \$500,000 & + & \$18,800,000 & - & \$620,000 \\ & & & & \text{[calculated in 2]} & & \\ & = & \$18,680,000 & & & & \end{array}$$

Problems (Group B)

P18-34B

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.

P18-34B, cont.
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.

P18-35B**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 | | | |

P18-36B**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 | <u>164,300</u> |
| Ending Merchandise Inventory | (12,300) |
| Cost of Goods Sold | <u>\$ 152,000</u> |

Company 2:

| | |
|------------------------------------|-------------------|
| Beginning Finished Goods Inventory | \$ 15,800 |
| Cost of Goods Manufactured | 212,000 |
| Cost of Goods Available for Sale | <u>227,800</u> |
| Ending Finished Goods Inventory | (11,300) |
| Cost of Goods Sold | <u>\$ 216,500</u> |

P18-37B
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 | | <u>16,640</u> |
| Net Income | | <u>\$ 9,360</u> |

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.

P18-38B
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 | <u>44,400</u> | |
| Ending Merchandise Inventory | <u>(10,250)</u> | |
| Cost of Goods Sold | | <u>34,150</u> |
| Gross Profit | | 23,850 |
| Selling and Administrative Expenses: | | |
| Utilities Expense | 3,100 | |
| Rent Expense | 4,700 | |
| Sales Commission Expense | <u>2,750</u> | |
| Total Selling and Administrative Expenses | | <u>10,550</u> |
| Net Income | | <u>\$ 13,300</u> |

Requirement 2

$$\begin{aligned}\text{Unit cost} &= \text{Cost of goods sold} / \text{Total units sold} \\ &= \$34,150 / 3,200 \text{ units} \\ &= \$10.67 \text{ per unit (rounded to the nearest cent)}\end{aligned}$$

P18-39B
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 | <u>43,100</u> | | |
| Ending Raw Materials Inventory | <u>(9,000)</u> | | |
| Direct Materials Used | | \$ 34,100 | |
| Direct Labor | | 21,000 | |
| Manufacturing Overhead: | | | |
| Plant janitorial services | 400 | | |
| Utilities for plant | 1,700 | | |
| Rent on plant | <u>15,000</u> | | |
| Total Manufacturing Overhead | | <u>17,100</u> | |
| Total Manufacturing Costs Incurred during the Year | | | <u>72,200</u> |
| Total Manufacturing Costs to Account For | | | 72,200 |
| Ending Work-in-Process Inventory | | | <u>(3,500)</u> |
| Cost of Goods Manufactured | | | <u>\$ 68,700</u> |

P18-39B, 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 | <u>68,700</u> | |
| Ending Finished Goods Inventory | <u>(5,800)</u> | |
| Cost of Goods Sold | | <u>62,900</u> |
| Gross Profit | | 51,100 |
| Selling and Administrative Expenses: | | |
| Sales Salaries Expense | 5,200 | |
| Delivery Expense | 1,900 | |
| Customer Service Hotline Expense | <u>1,000</u> | |
| Total Selling and Administrative Expenses | | <u>8,100</u> |
| Net Income (Loss) | | <u>\$ 43,000</u> |

* 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

$$\begin{aligned}\text{Unit cost} &= \text{Cost of goods manufactured} / \text{Total units produced} \\ &= \$68,700 / 17,400 \text{ units} \\ &= \$3.95 \text{ per unit (rounded to the nearest cent)}\end{aligned}$$

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

| | | |
|--|-----------|-------------------|
| Beginning <u>Work-in-Process Inventory</u> | | \$ 29,000 |
| Direct <u>Materials Used</u> : | | |
| Beginning Raw Materials Inventory | \$ 25,000 | |
| Purchases of Raw Materials | 56,000 | |
| <u>Raw Materials Available for Use</u> | 81,000 | |
| Ending Raw Materials Inventory | (21,000) | |
| Direct <u>Materials Used</u> | | \$ 60,000 |
| Direct <u>Labor</u> | | 75,000 |
| Manufacturing Overhead | | 49,000 |
| Total <u>Manufacturing Costs Incurred During the Month</u> | | 184,000 |
| Total <u>Manufacturing Costs to Account For</u> | | 213,000 |
| Ending <u>Work-in-Process Inventory</u> | | (22,000) |
| <u>Cost of Goods Manufactured</u> | | <u>\$ 191,000</u> |

Missing Amounts:

Beginning Raw Materials Inventory:

| | |
|-----------------------------------|------------------|
| Raw Materials Available for Use | \$ 81,000 |
| Purchases of Raw Materials | (56,000) |
| Beginning Raw Materials Inventory | <u>\$ 25,000</u> |

Direct Materials Used:

| | |
|---------------------------------|------------------|
| Raw Materials Available for Use | \$ 81,000 |
| Ending Raw Materials Inventory | (21,000) |
| Direct Materials Used | <u>\$ 60,000</u> |

Direct Labor:

| | |
|---|------------------|
| Total Manufacturing Costs Incurred During the Month | \$ 184,000 |
| Manufacturing Overhead | (49,000) |
| Direct Materials Used [calculated above] | (60,000) |
| Direct Labor | <u>\$ 75,000</u> |

P18-40B, 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 | <u>\$ 213,000</u> |

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 | <u>\$ 191,000</u> |

MARIA MANUFACTURING COMPANY**Income Statement****Month Ended June 30, 2016**

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

Missing Amounts:

Sales Revenue:

| | |
|--------------------|-------------------|
| Cost of Goods Sold | \$ 241,000 |
| Gross Profit | 229,000 |
| Sales Revenue | <u>\$ 470,000</u> |

P18-40B, 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 | <u>191,000</u> |
| Cost of Goods Available for Sale | <u>\$ 307,000</u> |

Ending Finished Goods Inventory:

| | |
|---|------------------|
| Cost of Goods Available for Sale [calculated above] | \$ 307,000 |
| Cost of Goods Sold | <u>(241,000)</u> |
| Ending Finished Goods Inventory | <u>\$ 66,000</u> |

Administrative Expenses:

| | |
|---|------------------|
| Total Selling and Administrative Expenses | \$ 165,000 |
| Selling Expenses | <u>(98,000)</u> |
| Administrative Expenses | <u>\$ 67,000</u> |

Operating Income:

| | |
|---|------------------|
| Gross Profit | \$ 229,000 |
| Total Selling and Administrative Expenses | <u>(165,000)</u> |
| Operating Income | <u>\$ 64,000</u> |

P18-41B**Requirement 1**

Cost of raw materials purchased during the year:

$$\begin{array}{rcccl} \text{Direct} & & \text{Beginning} & & \text{Cost of Raw} & & \text{Ending} \\ \text{Materials} & = & \text{Raw Materials} & + & \text{Materials} & - & \text{Raw Materials} \\ \text{Used} & & \text{Inventory} & & \text{Purchased} & & \text{Inventory} \end{array}$$

Solving for cost of raw materials purchased:

$$\begin{array}{rcccl} \text{Cost of Raw} & & \text{Direct} & & \text{Ending} & & \text{Beginning} \\ \text{Materials} & = & \text{Materials} & + & \text{Raw Materials} & - & \text{Raw Materials} \\ \text{Purchased} & & \text{Used} & & \text{Inventory} & & \text{Inventory} \\ & = & \$2,200,000 & + & \$900,000 & - & \$700,000 \\ & = & \$2,400,000 & & & & \end{array}$$

Requirement 2

Cost of goods manufactured for the year:

$$\begin{array}{rcccl} \text{Cost of} & & \text{Beginning} & & \text{Total} & & \text{Ending} \\ \text{Goods} & = & \text{Work-in-Process} & + & \text{Manufacturing} & - & \text{Work-in-Process} \\ \text{Manufactured} & & \text{Inventory} & & \text{Costs Incurred} & & \text{Inventory} \\ & = & \$900,000 & + & \$24,300,000 & - & \$1,700,000 \\ & = & \$23,500,000 & & & & \end{array}$$

Requirement 3

Cost of goods sold for the year:

$$\begin{array}{rcccl} \text{Cost of} & & \text{Beginning} & & \text{Cost of} & & \text{Ending} \\ \text{Goods} & = & \text{Finished Goods} & + & \text{Goods} & - & \text{Finished Goods} \\ \text{Sold} & & \text{Inventory} & & \text{Manufactured} & & \text{Inventory} \\ & = & \$900,000 & + & \$23,500,000 & - & \$730,000 \\ & & & & \text{[calculated in 2]} & & \\ & = & \$23,670,000 & & & & \end{array}$$

Continuing Problem

P18-42

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 18-1

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 | <u>\$ 446,000 ^e</u> | = Cost of Goods Manufactured | <u>\$ 1,186,000 ^c</u> | = Cost of Goods Sold | <u>\$ 1,190,000 ^a</u> |

* Denotes amounts given in the case.

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

Decision Case 18-1, cont.

Calculations:

^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 |
| <i>Therefore:</i> | | 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 |
| <i>Therefore:</i> | | 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 |
| <i>Therefore:</i> | | Ending Work-in-Process Inventory | = | \$ 239,000 |

Decision Case 18-1, 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 |
| <i>Therefore:</i> | | 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 |
| <i>Therefore:</i> | | 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 | <u>150,000</u> |
| Total Inventory | <u>\$532,000</u> |

Ethical Issue 18-1

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.

Ethical Issue 18-1, cont.

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 18-1

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.