# Chapter 18 <br> 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 de-fect-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 Cost of Goods Manufactured / Total number of units produced.
19. A service company calculates unit cost per service as Total Costs / Total number of services provided.
20. A merchandising company calculates unit cost per item as Total Cost of Goods Sold / 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
Freight in
Cost of goods available for sale

| \$ 40,000 |  |
| :---: | :---: |
| 2,700 | 42,700 |
|  | 50,900 |
|  | $(5,100)$ |
|  | \$ 45,800 |

S18-6

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

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 | 150 |
| Total manufacturing overhead | $\$ 10,450$ |

## 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
Purchases of Raw Materials
Freight In
Raw Materials Available for Use Ending Raw Materials Inventory Direct Materials Used
\$ 6,600
\$ 3,700

| 500 |
| :--- |
|  |
| 10,800 <br> $(1,300)$ |
| $\$ 9,500$ |

## S18-11

| 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 |

## S18-12

Beginning Finished Goods Inventory $\quad \$ 32,000$
Cost of Goods Manufactured

| 160,000 |
| ---: |
| 192,000 |

Cost of Goods Available for Sale 192,000
Ending Finished Goods Inventory
Cost of Goods Sold $(17,000)$
\$ 175,000

## S18-13

Cost of one haircut $=$ Total operating costs / Total number of haircuts

$$
\begin{aligned}
& =[\$ 375+\$ 1,321+\$ 150+\$ 50] / 240 \text { haircuts } \\
& =\$ 1,896 / 240 \text { haircuts } \\
& =\$ 7.90 \text { per haircut }
\end{aligned}
$$

## 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 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.

## 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 |  | 21 |
| Gross Profit |  | 7 |
| Operating Expenses: | $\$ 2$ |  |
| $\quad$$\quad$ Selling Expenses <br> Administrative Expenses <br> Total Operating Expenses <br> Operating Income | 1 | 3 |

Company B (all amounts in millions):
Service Revenue \$54
Expenses:
Wages Expense \$ 16
Rent Expense
9
Total Expenses
Operating Income

$$
\begin{array}{r}
25 \\
\hline \$ 29 \\
\hline
\end{array}
$$

Company C (all amounts in millions):
Sales Revenue
\$ 28
Cost of Goods Sold
Gross Profit
$\begin{array}{r}16 \\ \hline 12\end{array}$
Operating Expenses:

Selling Expenses
Administrative Expenses
Total Operating Expenses
Operating Income
\$ 2
5
$\begin{array}{r}7 \\ \hline \$ 5 \\ \hline\end{array}$

## 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 | 1 |
| Total current assets | $\$ 23$ |

Company B (all amounts in millions):

| Cash | $\$ 14$ |
| :--- | ---: |
| Accounts Receivable | 6 |
| Total current assets | $\underline{\$ 20}$ |
|  |  |

Company C (all amounts in millions):

| Cash | $\$ 27$ |
| :--- | ---: |
| Accounts Receivable | 16 |
| Merchandise Inventory | 8 |
| current assets | $\$ 51$ |

E18-20

| 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 |  |

## E18-21

(a)
Total Manufacturing Costs to Account For
Total Manufacturing Costs Incurred during the Year

Beginning Work-in-Process Inventory | $\$ 55,300$ |
| ---: |
| $(45,100)$ |
| $\$ 10,200$ |

(b)

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

Total Manufacturing Costs to Account For
\(\left.\begin{array}{rc}\$ 55,300 <br>

(50,800)\end{array}\right]\)| $\$ \quad 4,500$ |
| :---: |

(d)

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

Cost of Goods Manufactured
Ending Work-in-Process Inventory
\$ 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]
Ending Work-in-Process Inventory
Cost of Goods Manufactured
\(\left.\begin{array}{r}\$ 105,900 <br>

(25,800)\end{array}\right]\)| $\$ 80,100$ |
| :--- |

## E18-21, cont.

(g)

Total Manufacturing Costs Incurred during the Year [h, below] \$ 5,600
Direct Labor
Manufacturing Overhead
Direct Materials Used

|  |
| ---: |
| $\$ 3,200$ |

(h)

Total Manufacturing Costs to Account For
Beginning Work-in-Process Inventory
Total Manufacturing Costs Incurred During the Year
\$ 8,200
$\begin{array}{r}(2,600) \\ \hline \$ \quad 5,600 \\ \hline\end{array}$
(i)

Total Manufacturing Costs to Account For
Ending Work-in-Process Inventory
Cost of Goods Manufactured
\(\left.\begin{array}{cc}\$ \& 8,200 <br>

(2,000)\end{array}\right]\)| $\$$ |
| :--- |

| CLARKSON CORP. <br> 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

$$
=\$ 427,000 / 2,135 \mathrm{lamps}
$$

$=\$ 200$ per lamp

## 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 | 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 |
| Cost of Goods Available for Sale | 218,000 |
| [above] |  |
| Ending Finished Goods Inventory | $(22,000)$ |
| Cost of Goods Sold | $\$ 196,000$ |

## E18-24

## Requirement 1

| Grooming Revenue |  | $\$ 16,000$ |
| :--- | ---: | ---: |
| Expenses: | $\$ 3,900$ |  |
| $\quad$ Wages Expense | 1,730 |  |
| Grooming Supplies Expense | 1,000 |  |
| Building Rent Expense | 285 |  |
| Utilities Expense | 105 |  |
| $\quad$ Depreciation Expense-Equipment |  | 7,020 <br> Total Expenses <br> Net Income |

## Requirement 2

$\begin{aligned} & \text { Cost of Service to } \\ & \text { Groom One Dog }\end{aligned}=$ Total expenses $/$ Total number of dogs groomed

$$
\begin{aligned}
& =\$ 7,020 / 600 \mathrm{dogs} \\
& =\$ 11.70 \text { per } \operatorname{dog}
\end{aligned}
$$

## 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
Gross Profit
$\begin{array}{r}50,544 \\ \hline 46,656\end{array}$
Selling and Administrative Expenses
Operating Income

| 34,020 |
| ---: |
| $\$ 12,636$ |

## 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)

## 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 $\mathrm{a}, \mathrm{b}$, 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

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

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 | 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 | $\$ 218,600$ |

## SANDMAN <br> Income Statement <br> 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
Net Income
\$ 12,970

## 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 $\$ 60$.

## CAM'S PETS <br> Income Statement <br> Year Ended December 31, 2016

Revenues:
Sales Revenue $\$ 58,000$
Cost of Goods Sold:
Beginning Merchandise Inventory
Purchases of Merchandise
Cost of Goods Available for Sale
Ending Merchandise Inventory
\$ 15,100
st of Goods Sold
Gross Profit
Selling and Administrative Expenses:
Utilities Expense
3,700
Rent Expense
4,900
Sales Commission Expense
2,950

Net Income

## Requirement 2

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

| YUM YUM TREATS <br> 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 |

P18-31A, cont.
Requirement 2

## YUM YUM TREATS <br> Income Statement <br> Year Ended December 31, 2016

Revenues:
Sales Revenue $\quad \$ 105,000$
Cost of Goods Sold:
Beginning Finished Goods Inventory \$ 0
Cost of Goods Manufactured* $\quad 68,000$
Cost of Goods Available for Sale $\quad 68,000$
Ending Finished Goods Inventory $\quad(5,700)$
Cost of Goods Sold
Gross Profit
Selling and Administrative Expenses:
Sales Salaries Expense
5,000
Delivery Expense
1,800
Customer Service Hotline Expense
1,000

| Total Selling and Administrative Expenses $\quad \begin{array}{r}7,800 \\ \text { Net Income (Loss) }\end{array} \quad \$ 34,900$ |
| :--- |

* 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)

## 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
\(\left.\begin{array}{r}\$ 84,000 <br>

(58,000)\end{array}\right]\)| $\$ 26,000$ |
| ---: |

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

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

Direct Labor
$(60,000)$
\$ 71,000

## P18-32A, cont.

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

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

## CHILI MANUFACTURING COMPANY <br> Income Statement <br> Month Ended June 30, 2016

Sales Revenue $\$ \mathbf{5 1 0 , 0 0 0}$
Cost of Goods Sold:

| Beginning Finished Goods Inventory | $\$ 112,000$ |
| :--- | ---: | ---: |
| Cost of Goods Manufactured | $\mathbf{1 6 9 , 0 0 0}$ |
| Cost of Goods Available for Sale | $\mathbf{2 8 1 , 0 0 0}$ |

Ending Finished Goods Inventory
$(69,000)$
Cost of Goods Sold
Gross Profit
Selling and Administrative Expenses:
Selling Expenses 95,000
Administrative Expenses $\mathbf{6 1 , 0 0 0}$
Total Selling and Administrative Expenses $\quad 156,000$
Operating Income
\$ 142,000

Missing Amounts:
Sales Revenue:
Cost of Goods Sold \$ 212,000
Gross Profit
Sales Revenue

298,000
$\$ 510,000$

## 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 | 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
Ending Finished Goods Inventory

| $(212,000)$ |
| ---: |
| $\$ \quad 69,000$ |

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

Operating Income:

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

## P18-33A

## Requirement 1

Cost of raw materials purchased:

| Direct | Beginning |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Materials |  |  |  |  |
| Used Maw Materials | + | Cost of Raw | Materials | - |
| Inventory |  | Raw Materials |  |  |
| Purchased |  | Inventory |  |  |

Solving for cost of raw materials purchased:
$\left.\begin{array}{cccccc}\begin{array}{c}\text { Cost of Raw } \\ \text { Materials } \\ \text { Purchased }\end{array} & = & \begin{array}{c}\text { Direct } \\ \text { Materials } \\ \text { Used }\end{array} & + & \begin{array}{c}\text { Ending } \\ \text { Raw Materials } \\ \text { Inventory }\end{array} & -\end{array} \begin{array}{c}\text { Beginning } \\ \text { Raw Materials }\end{array}\right]$ Inventory

## Requirement 2

Cost of goods manufactured for the year:

| Cost of <br> Goods <br> Manufactured | $=$Beginning <br> Work-in-Process <br> Inventory | +Total <br> Manufacturing <br> Costs Incurred | - | Ending <br> Work-in-Process <br> Inventory |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $=\$ 800,000$ |  |  |  |
|  | $=\$ 18,800,000$ | $\$ 19,600,000$ | - | $\$ 1,600,000$ |

## Requirement 3

Cost of goods sold for the year:
\(\left.$$
\begin{array}{ccccc}\begin{array}{c}\text { Cost of } \\
\text { Goods } \\
\text { Sold }\end{array} & = & \begin{array}{c}\text { Beginning } \\
\text { Finished Goods } \\
\text { Inventory }\end{array}
$$ \& + \& \begin{array}{c}Cost of <br>
Goods <br>

Manufactured\end{array}\end{array}\right)\)| Ending |
| :---: |
| Finished Goods |
| Inventory |

## 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 $\mathrm{a}, \mathrm{b}$, 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.

## 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

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

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 <br> 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 | $\$ 216,500$ |

## THE WINDSHIELD DOCTORS <br> Income Statement <br> 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
Net Income
\$ 9,360

## Requirement 2

Unit cost $=$ Total expenses $/$ Total windshields repaired

$$
\begin{aligned}
& =\$ 16,640 / 100 \text { windshields } \\
& =\$ 166.40 \text { per windshield }
\end{aligned}
$$

## Requirement 3

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

## CLYDE'S PETS <br> Income Statement

## Year Ended December 31, 2016

Revenues:
Sales Revenue $\$ 58,000$
Cost of Goods Sold:
Beginning Merchandise Inventory
Purchases of Merchandise
Cost of Goods Available for Sale
Ending Merchandise Inventory
\$ 15,400
st of Goods Sold
Gross Profit
Selling and Administrative Expenses:
Utilities Expense
3,100
Rent Expense
4,700
Sales Commission Expense
2,750
Total Selling and Administrative Expenses $\quad 10,550$
Net Income

## Requirement 2

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

| ORGANIC BONES <br> 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 |

## ORGANIC BONES <br> Income Statement <br> Year Ended December 31, 2016

Revenues:
Sales Revenue $\quad \$ 114,000$
Cost of Goods Sold:

| Beginning Finished Goods Inventory | $\$ \quad 0$ |  |
| :--- | ---: | ---: |
| Cost of Goods Manufactured* | 68,700 |  |
| Cost of Goods Available for Sale | 68,700 |  |
| Ending Finished Goods Inventory | $(5,800)$ |  |
|  |  |  |
| cost of Goods Sold |  | 52,900 |
| ross 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
Net Income (Loss)

| 8,100 |
| ---: |
| $\$ 43,000$ |

* 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)

# MARIA MANUFACTURING COMPANY <br> Schedule of Cost of Goods Manufactured <br> 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
Purchases of Raw Materials
Beginning Raw Materials Inventory

| $\$ 81,000$ |
| ---: |
| $(56,000)$ |
| $\$ 25,000$ |

Direct Materials Used:
Raw Materials Available for Use
Ending Raw Materials Inventory Direct Materials Used
\$ 81,000
$\begin{array}{r}(21,000) \\ \hline \$ 60,000 \\ \hline\end{array}$

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

P18-40B, cont.
Total Manufacturing Costs to Account For:
Beginning Work-in-Process Inventory \$ 29,000
Total Manufacturing Costs Incurred During the Month
Total Manufacturing Costs to Account For

184,000
\$ 213,000

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

## MARIA MANUFACTURING COMPANY <br> Income Statement <br> 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
Gross Profit
Selling and Administrative Expenses:
Selling Expenses 98,000

Administrative Expenses
67,000
Total Selling and Administrative Expenses
Operating Income

165,000
$\$ \mathbf{6 4 , 0 0 0}$

Missing Amounts:

Sales Revenue:
Cost of Goods Sold
\$ 241,000
Gross Profit
Sales Revenue

## 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 | 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
Ending Finished Goods Inventory

| $(241,000)$ |
| ---: |
| $\$ \quad 66,000$ |

Administrative Expenses:

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

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

## P18-41B

## Requirement 1

Cost of raw materials purchased during the year:

| Direct | Beginning |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Materials |  |  |  |  |
| Raw Materials |  |  |  |  |
| Used | Inventory | Cost of Raw | Materials | - |
| Purchased |  | Raw Materials |  |  |
| Inventory |  |  |  |  |

Solving for cost of raw materials purchased:

| Cost of Raw <br> Materials <br> Purchased | $=$ | Direct <br> Materials <br> Used | + | Ending <br> Raw Materials <br> Inventory | Beginning <br> Raw Materials <br> Inventory |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $=\$ 2,200,000$ |  |  |  |  |
|  | + | $\$ 900,000$ | - | $\$ 700,000$ |  |

## Requirement 2

Cost of goods manufactured for the year:

| Cost of <br> Goods <br> Manufactured | $=$Beginning <br> Work-in-Process <br> Inventory | +Total <br> Manufacturing <br> Costs Incurred | -Ending <br> Work-in-Process <br> Inventory |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $=\$ 900,000$ |  |  |  |
|  | + | $\$ 24,300,000$ | - | $\$ 1,700,000$ |

## Requirement 3

Cost of goods sold for the year:

| Cost of <br> Goods <br> Sold | $=$ | Beginning <br> Finished Goods <br> Inventory | + | Cost of <br> Goods <br> Manufactured |
| :--- | :--- | :---: | :---: | :---: | | Ending |
| :---: |
|  | | Finished Goods |
| :---: |
| Inventory |

P18-42

## DANIELS CONSULTING, INC. <br> Schedule of Cost of Goods Manufactured Month Ended January 31, 2018

Beginning Work-in-Process Inventory $\quad \$ \quad 0$
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 $\quad$ 23,200
Total Manufacturing Costs Incurred during the Month
Total Manufacturing Costs to Account For
Ending Work-in-Process Inventory
Cost of Goods Manufactured

## 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. <br> Flow of Costs Schedule For the $1^{\text {st }}$ Quarter |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Raw Materials Inventory |  | Work-in-Process Inventory |  | Finished Goods Inventory |  |
| Beginning Inventory + Purchases | $\begin{array}{r}\$ 113,000 ~ * ~ \\ 476,000 \text { * } \\ \hline\end{array}$ | Beginning <br> Inventory <br> + Direct Materials <br> Used | $\begin{array}{r} \$ 229,000 \text { * } \\ 446,000{ }^{\text {e }} \end{array}$ | Beginning Inventory + Cost of Goods Manufactured | $\begin{array}{r} \$ 154,000 \text { * } \\ 1,186,000^{\text {c }} \\ \hline \end{array}$ |
|  |  | + Direct Labor <br> + Manufacturing Overhead | $\begin{aligned} & 505,000 * \\ & 245,000 * \end{aligned}$ |  |  |
| = Raw Materials Available for Use <br> - Ending Inventory <br> = Direct Materials <br> Used | $\begin{aligned} & 589,000 \\ & 143,000 \end{aligned}$ | $=$ Total Manufacturing Costs to Account For <br> - Ending Inventory | $\begin{array}{r} 1,425,000 \text { * } \\ 239,000{ }^{\text {d }} \end{array}$ | = Cost of Goods Available for Sale <br> - Ending Inventory | $\begin{array}{r} 1,340,000 ~^{*} \\ 150,000^{b} \end{array}$ |
|  | \$ 446,000 ${ }^{\text {e }}$ | $\begin{aligned} = & \text { Cost of Goods } \\ & \text { Manufactured } \end{aligned}$ | \$ 1,186,000 ${ }^{\text {c }}$ | $\begin{aligned} & =\text { Cost of Goods } \\ & \text { Sold } \end{aligned}$ | \$ 1,190,000 ${ }^{\text {a }}$ |

* Denotes amounts given in the case.

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

## Decision Case 18-1, cont.

## Calculations:

${ }^{\text {a }}$ Cost of Goods Sold:

| Sales | $\times$ | $(1-$ Gross Profit \%) | $=$ | Cost of Goods Sold |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\$ 1,700,000$ | $\times$ | $(1-30 \%)$ | $=$ | $\$ 1,190,000$ |  |
| $\$ 1,700,000$ | $\times$ | $70 \%$ |  |  | $\$ 1,190,000$ |

${ }^{\mathrm{b}}$ Ending Finished Goods Inventory:

| Cost of Goods <br> Available for Sale | - | Ending Finished <br> Goods Inventory | $=\quad$ Cost of Goods Sold |
| ---: | :--- | :--- | :--- | :--- |
| $\$ 1,340,000$ |  |  |  |$\quad-\quad$| Ending Finished |
| :--- |
| Goods Inventory |$\quad=\quad \$ 1,190,000$

${ }^{c}$ Cost of Goods Manufactured:

| Beginning Finished <br> Goods Inventory | +Cost of Goods <br> Manufactured | $=$Cost of Goods <br> Available for Sale |  |
| :---: | :---: | :---: | :---: |
| $\$ 154,000$ | +Cost of Goods <br> Manufactured | $=$ | $\$ 1,340,000$ |

${ }^{\mathrm{d}}$ Ending Work-in-Process Inventory:

| Total Manufacturing <br> Costs to Account For | Ending Work-in-Process <br> Inventory | $=$ | Cost of Goods <br> Manufactured |  |
| :---: | :---: | :---: | :---: | :---: |
| $\$ 1,425,000$ | - | Ending Work-in-Process <br> Inventory | $=$ | $\$ 1,186,000$ |

## Decision Case 18-1, cont.

${ }^{\mathrm{e}}$ Direct Materials Used:

| Beginning Work-in-Process Inventory | + | Direct Materials Used |  | $\begin{aligned} & \text { Direct + } \\ & \text { Labor } \end{aligned}$ | Manufacturing Overhead | = | Total Manufacturing Costs to Account For |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \$229,000 | + | Direct Materials Used | + | \$505,000 | $+\$ 245,000$ | = | \$1,425,000 |
| Therefore: |  |  |  | rect Materi | ials Used | = | \$ 446,000 |

${ }^{\mathrm{f}}$ 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 $\quad \underline{150,000}$
Total Inventory $\underline{\underline{\$ 532,000}}$

## 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.

