Overview

This chapter introduces the basic terminology of cost accounting. Communication among managers and management accountants is greatly facilitated by having a common understanding of the meaning of cost terms and concepts. The chapter illustrates a major theme of the textbook: using different costs for different purposes. The chapter also provides a framework to help you understand cost accounting and cost management.

Review Points

1. Accountants define cost as a resource sacrificed (used) or forgone to achieve a specific objective. For example, it might cost $5,000 per month to rent retail space in a shopping center. To guide their decisions, managers often want to know how much a particular thing costs. This “thing” is called a cost object, anything for which a measurement of costs is desired. In the following questions, the cost object is in italics: How much does it cost to manufacture a 12-pack of Diet Pepsi? Which delivery truck is the least expensive to operate?

2. Costing systems account for costs in two basic stages. The first stage is cost accumulation, the collection of cost data in some organized way by means of an accounting system. The second stage is cost assignment, a general term that encompasses both (a) tracing accumulated costs that have a direct relationship to a cost object and (b) allocating accumulated costs that have an indirect relationship to a cost object.

3. A key question in cost assignment is whether costs have a direct or an indirect relationship to the particular cost object.

- The direct costs of a cost object are related to the particular cost object and can be traced to that cost object in an economically feasible (cost-effective) way. The term cost tracing describes the assignment of direct costs to the particular cost object.
- The indirect costs of a cost object are related to the particular cost object but cannot be traced to that cost object in an economically feasible way. The term cost allocation describes the assignment of indirect costs to the particular cost object.

Several factors affect the classification of a cost as direct or indirect: the materiality (relative importance) of the cost in question, available information-gathering technology, and design of operations.

4. Consider this question: Is a production department manager’s salary a direct cost or an indirect cost? The answer: It depends on the choice of the cost object. For example, if the cost object is the production department, the salary is a direct cost because it can be traced to the cost object. But if the cost object is one of the many products manufactured in the production department, the salary is an indirect cost because it can be allocated (but cannot be traced) to the cost object.

5. Two basic types of cost-behavior patterns are found in accounting systems.

- A variable cost changes in total in proportion to changes in the related level of total activity or volume. A variable cost does not change on a per unit basis when the related level of total activity or volume changes.
- A fixed cost remains unchanged in total for a given time period, despite wide changes in the related level of total activity or volume. A fixed cost increases (decreases) on a per unit basis when the related level of total activity or volume decreases (increases).

Costs are variable or fixed with respect to a specific cost object and for a given time period. A relevant range is the span of normal activity or
volume level in which there is a specific relationship between the activity or volume level and the cost in question.

6. A cost driver is a variable, such as the level of activity or volume, that causes costs to increase or decrease over a given time period. In other words, a cause-and-effect relationship exists between a change in the level of activity or volume and a change in the level of total costs.

- The cost driver of variable costs is the level of activity or volume whose change causes these costs to change proportionately. For example, the number of trucks assembled is a cost driver of the cost of steering wheels for the trucks.
- Fixed costs have no cost driver in the short run but may have a cost driver in the long run. For example, the equipment and staff costs of product testing typically are fixed in the short run with respect to changes in the volume of production. In the long run, however, the company increases or decreases these costs to the levels needed to support future production levels.

7. Accounting systems typically report both total costs and unit costs (also called average costs). A unit cost is computed by dividing some amount of total costs by the related number of units. Unit costs are regularly used in financial reports. For many decisions, however, managers should think in terms of total costs rather than unit costs because fixed cost per unit changes when the related level of volume changes. Unit costs, therefore, should be interpreted with caution if they include a fixed-cost component. The Tennessee Products example, text p. 36, illustrates this important point.

8. Companies in the manufacturing, merchandising, and service sectors of the economy are frequently referred to in the study of cost accounting.

- Manufacturing-sector companies purchase materials and components and convert them into various finished goods. These companies typically have three types of inventory: direct materials inventory, work-in-process inventory, and finished goods inventory.
- Merchandise-sector companies purchase and then sell tangible products without changing their basic form. These companies have one type of inventory: merchandise inventory.
- Service-sector companies provide services (intangible products)—for example, legal advice, checking accounts, or audits—to their customers. These companies do not have an inventory of items for sale.

9. For companies with inventories, generally accepted accounting principles distinguish inventoriable costs from period costs.

- Inventoriable costs are all costs of a product that are considered as assets in the balance sheet when they are incurred and that become cost of goods sold when the product is sold. For manufacturing companies, all manufacturing costs are inventoriable costs. For merchandising companies, inventoriable costs are the acquisition costs of merchandise. Because service companies have no inventories, they have no inventoriable costs.
- Period costs are all costs in the income statement other than cost of goods sold. Period costs are treated as expenses of the accounting period in which they are incurred.

10. Three terms are widely used in describing manufacturing costs. In the following definitions, “the cost object” refers to “work in process and then finished goods.”

- Direct material costs are the acquisition costs of all materials that eventually become part of the cost object and that can be traced to the cost object in an economically feasible way.
- Direct manufacturing labor costs include the compensation of all manufacturing labor that can be traced to the cost object in an economically feasible way.
- Indirect manufacturing costs (also called manufacturing overhead costs or factory overhead costs) are all manufacturing costs that are related to the cost object but that cannot be traced to that cost object in an economically feasible way. Examples include
power, indirect materials, indirect manufacturing labor, plant insurance, plant depreciation, and compensation of plant managers.

11. In the income statement of a manufacturing company, cost of goods sold is computed as follows (figures assumed):

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning finished goods</td>
<td>$50,000</td>
</tr>
<tr>
<td>Add cost of goods manufactured</td>
<td>800,000</td>
</tr>
<tr>
<td>Cost of goods available for sale</td>
<td>850,000</td>
</tr>
<tr>
<td>Deduct ending finished goods</td>
<td>60,000</td>
</tr>
<tr>
<td>Cost of goods sold</td>
<td>$790,000</td>
</tr>
</tbody>
</table>

The line item, cost of goods manufactured, refers to the cost of all goods brought to completion, whether they were started before or during the current accounting period. Cost of goods manufactured is often computed in a supporting schedule to the income statement as follows (figures assumed):

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning direct materials</td>
<td>$60,000</td>
</tr>
<tr>
<td>Add purchases of direct materials</td>
<td>510,000</td>
</tr>
<tr>
<td>Direct materials available for use</td>
<td>570,000</td>
</tr>
<tr>
<td>Deduct ending direct materials</td>
<td>50,000</td>
</tr>
<tr>
<td>Direct materials used</td>
<td>520,000</td>
</tr>
<tr>
<td>Add direct manufacturing labor</td>
<td>100,000</td>
</tr>
<tr>
<td>Add indirect manufacturing costs</td>
<td>230,000</td>
</tr>
<tr>
<td>Manufacturing costs incurred</td>
<td>850,000</td>
</tr>
<tr>
<td>during the period</td>
<td></td>
</tr>
<tr>
<td>Add beginning work in process</td>
<td>120,000</td>
</tr>
<tr>
<td>Total manufacturing cost to</td>
<td>970,000</td>
</tr>
<tr>
<td>account for</td>
<td></td>
</tr>
<tr>
<td>Deduct ending work in process</td>
<td>170,000</td>
</tr>
<tr>
<td>Cost of goods manufactured</td>
<td>$800,000</td>
</tr>
</tbody>
</table>

EXHIBIT 2-8, text p. 40, shows the flow of manufacturing costs in the general ledger accounts, from Work-in-Process Inventory to Finished Goods Inventory to Cost of Goods Sold.

12. Manufacturing costing systems use the terms prime costs and conversion costs.

- Prime costs are all direct manufacturing costs. Under the three-part classification of manufacturing costs in paragraph 10, prime costs are equal to direct material costs plus direct manufacturing labor costs. In cases where other direct manufacturing cost categories are used, they too are prime costs. For example, power costs could be classified as a direct cost if the power is metered to specific areas of a plant that are dedicated to manufacturing separate products.

- Conversion costs are all manufacturing costs other than direct material costs; they are incurred to convert direct materials into finished goods. Under the three-part classification of manufacturing costs, conversion costs are equal to direct manufacturing labor costs plus indirect manufacturing costs.

13. All manufacturing labor compensation, except for direct labor and managers’ salaries, is usually classified as indirect labor costs—a major component of manufacturing overhead. Two main categories of indirect labor in manufacturing and service companies are overtime premium and idle time. Overtime premium consists of the wage rate paid to workers (for both direct labor and indirect labor) in excess of their straight-time wage rates. Overtime premium is classified as overhead when the overtime is attributable to the heavy overall volume of work. When a particular job, such as a rush order, is the sole reason for the overtime, the overtime premium is classified as a direct cost of that job. Idle time is wages paid for unproductive time caused by lack of orders, machine breakdowns, material shortages, poor scheduling, and the like.

14. Some manufacturing companies classify payroll fringe benefit costs of direct labor as overhead cost, whereas others classify them as direct labor cost. The latter approach is preferable because these payroll fringe benefit costs are a fundamental aspect of acquiring the direct manufacturing labor services. To prevent disputes about cost items such as payroll fringe benefits, training time, overtime premium, idle time, vacations, and sick leave, contracts and laws should be as specific as feasible regarding definitions and measurements. The example, text p. 44, shows that the classification of payroll fringe benefits can be important for income tax purposes.
15. An important theme of the textbook is using different costs for different purposes. For example, managers can assign different costs to a product depending on their purpose. A **product cost** is the sum of costs assigned to a product for a specific purpose, such as (a) preparing financial statements for external reporting under generally accepted accounting principles (GAAP), (b) contracting with government agencies, or (c) pricing and product-mix decisions. For financial statements based on GAAP, a product cost includes only inventoriable costs. A product cost includes a broader set of costs for reimbursement under government contracts, or a still broader set of costs for pricing and product-mix decisions.

16. Three features of cost accounting and cost management across a wide range of applications are:

   a. Calculating the cost of products, services, and other cost objects
   b. Obtaining information for planning and control and performance evaluation
   c. Analyzing the relevant information for decision making

Chapters 3 through 12 explain these ideas, which also form the foundation for the study of various topics later in the textbook.

### Featured Exercises

1. Whitaker Company’s relevant range is between 8,000 units and 16,000 units. If 10,000 units are produced, variable costs are $200,000 and fixed costs are $450,000. Assuming production increases to 15,000 units, compute (a) total variable costs, (b) variable cost per unit, and (c) fixed cost per unit.

**Solution**

a. Variable cost per unit = $200,000 \div 10,000 = $20
   
   Total variable costs = $20 \times 15,000 = $300,000

b. Variable cost per unit = $300,000 \div 15,000 = $20

c. Fixed cost per unit = $450,000 \div 15,000 = $30
2. The following information pertains to Thorpe Company’s operations for January of the current year:

<table>
<thead>
<tr>
<th>Inventories</th>
<th>Beginning</th>
<th>Ending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct materials</td>
<td>$18,000</td>
<td>$15,000</td>
</tr>
<tr>
<td>Work in process</td>
<td>9,000</td>
<td>6,000</td>
</tr>
<tr>
<td>Finished goods</td>
<td>27,000</td>
<td>36,000</td>
</tr>
</tbody>
</table>

Additional cost information for January: direct materials purchased $42,000, direct manufacturing labor $30,000, manufacturing overhead $40,000.

Compute cost of goods manufactured for January.

**Solution**

- Direct materials used, $18,000 + $42,000 − $15,000  $ 45,000
- Direct manufacturing labor 30,000
- Manufacturing overhead 40,000
- Manufacturing costs incurred during the period 115,000
- Add beginning work-in-process inventory 9,000
- Total manufacturing costs to account for 124,000
- Deduct ending work-in-process inventory 6,000
- Cost of goods manufactured 118,000
Review Questions and Exercises

(All answers are at the end of the chapter.)

Completion Statements

Fill in the blank(s) to complete each statement.

1. For a given cost object, ___________ costs are traced to it and __________ costs are allocated to it.
2. A ____________________ is the band of normal activity or volume level in which there is a specific relationship between the level of activity or volume and the cost in question.
3. A ________________ is a variable, such as the level of activity or volume, that causes costs to increase or decrease over a given time period.
4. All costs of a product that are considered as assets when they are incurred and that become cost of goods sold when the product is sold are called ________________ costs.
5. _________________ costs are all costs in the income statement other than cost of goods sold.
6. Indirect manufacturing costs are also known as ____________________ costs.
7. ________________ costs are incurred to transform direct materials into finished goods.
8. Different costs are assigned to products for different purposes. Three of these purposes are:
   ____________________________
   ____________________________
   ____________________________

True-False

Indicate whether each statement is true (T) or false (F).

__ 1. A cost object is a target level of costs to be achieved.
__ 2. Cost accumulation is a general term that encompasses both tracing costs to a cost object and allocating costs to that cost object.
__ 3. A given cost item can be a direct cost of one cost object and an indirect cost of another cost object.
__ 4. When graphed on a per unit basis, both variable costs and fixed costs are linear within the relevant range.
__ 5. For a manufacturer of soft drinks, television advertising and depreciation on bottle-capping machines are period costs.
__ 6. In the income statement of a manufacturing company, cost of goods manufactured refers to the goods brought to completion, whether they were started before or during the current accounting period.
__ 7. The concept of inventoriable costs is applicable to manufacturing companies and merchandising companies, but not to service companies.
__ 8. Manufacturing costs incurred during the accounting period minus the decrease in work-in-process inventory during the period is equal to cost of goods manufactured.
__ 9. When a manufacturing plant becomes highly automated, the traditional three-part classification of manufacturing costs is not necessarily used.
__ 10. It is preferable to classify payroll fringe benefit costs of direct manufacturing labor as a manufacturing overhead cost.

Multiple Choice

Select the best answer to each question. Space is provided for computations after the quantitative questions.

__ 1. (CMA adapted) A fixed cost that would be considered a direct cost is:
   a. a controller’s salary if the cost object is a unit of product.
   b. the cost of renting a warehouse to store inventory if the cost object is the Purchasing Department.
   c. an order clerk’s salary if the cost object is the Purchasing Department.
   d. the cost of electricity if the cost object is the Internal Audit Department.
2. Booth Company has total fixed costs of $64,000 if 8,000 units are produced. The relevant range is 8,000 units to 16,000 units. If 10,000 units are produced, fixed costs are:
   a. $80,000 in total.
   b. $8 per unit.
   c. $48,000 in total.
   d. $6.40 per unit.

3. In general, costs that can be most reliably predicted are:
   a. fixed cost per unit.
   b. total cost per unit.
   c. total variable costs.
   d. variable cost per unit.

4. Oxley Company has total variable costs of $120,000 if 15,000 units are produced. The relevant range is 10,000 units to 20,000 units. If 12,000 units are produced, variable costs are:
   a. $10 per unit.
   b. $120,000 in total.
   c. $8 per unit.
   d. $90,000 in total.

5. (CPA adapted) The monthly cost of renting a manufacturing plant is:
   a. a prime cost and an inventoriable cost.
   b. a prime cost and a period cost.
   c. a conversion cost and an inventoriable cost.
   d. a conversion cost and a period cost.

6. (CPA adapted) Anthony Company has budgeted its cost of goods sold at $4,000,000, including fixed costs of $800,000. The variable cost of goods sold is expected to be 75% of revenues. Budgeted revenues are:
   a. $4,266,667.
   b. $4,800,000.
   c. $5,333,333.
   d. $6,400,000.

7. (CPA) For 2002, the gross margin of Dumas Company is $96,000; the cost of goods manufactured is $340,000; the beginning inventories of work in process and finished goods are $28,000 and $45,000, respectively; and the ending inventories of work in process and finished goods are $38,000 and $52,000, respectively. The revenues of Dumas Company for 2005 are:
   a. $419,000.
   b. $429,000.
   c. $434,000.
   d. $436,000.

8. Using the traditional three-part classification of manufacturing costs, prime costs and conversion costs have the common component of:
   a. direct material costs.
   b. direct manufacturing labor costs.
   c. variable manufacturing overhead costs.
   d. fixed manufacturing overhead costs.

9. An assembly worker at a manufacturing company earns $12 per hour for straight time and $18 per hour for time over 40 hours per week. In a given week, the assembler worked 47 hours. The overtime premium for the week is:
   a. $6.
   b. $42.
   c. $84.
   d. $126.
Review Exercises

Solutions for these Review Exercises are at the end of the chapter.
Check figures are given at the end of each of the exercises.

1. (CMA adapted) Backus Company estimated its unit cost of producing and selling 12,000 units per month as follows:

   - Direct materials used $32
   - Direct manufacturing labor 20
   - Variable manufacturing overhead 15
   - Fixed manufacturing overhead 6
   - Variable nonmanufacturing costs 3
   - Fixed nonmanufacturing costs 4
   - Total costs $80

   The cost driver for manufacturing costs is units produced. The cost driver for nonmanufacturing costs is units sold. The relevant range is 7,000 units to 14,000 units.

   a. Compute fixed manufacturing overhead per unit for monthly production of 10,000 units.
   b. Compute total costs (manufacturing and nonmanufacturing) for a month when 9,000 units are produced and 8,000 units are sold.

   (Check figures: (a) $7.20 (b) $747,000)

2. Yardley Corp. incurred the following manufacturing costs in 2005:

   Variable manufacturing costs:
   - Direct materials $600,000
   - Direct manufacturing labor 560,000
   - Manufacturing overhead 40,000
   - Total manufacturing overhead 540,000
   - Total manufacturing costs $1,740,000

   In 2005, the total unit cost at production levels of 40,000 units and 60,000 units is $37.50 and $33.00, respectively. The relevant range is 35,000 units to 70,000 units.

   Compute the number of units produced in 2005.

   (Check figure: 50,000 units)
3. (CPA) The following information is from the records of Wiggins & Sons for 2005:

<table>
<thead>
<tr>
<th>Inventories</th>
<th>Ending</th>
<th>Beginning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finished goods</td>
<td>$95,000</td>
<td>$110,000</td>
</tr>
<tr>
<td>Work in process</td>
<td>80,000</td>
<td>70,000</td>
</tr>
<tr>
<td>Direct materials</td>
<td>95,000</td>
<td>90,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Costs Incurred During the Period</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total manufacturing costs</td>
<td>$580,000</td>
</tr>
<tr>
<td>Manufacturing overhead</td>
<td>160,000</td>
</tr>
<tr>
<td>Direct materials used</td>
<td>190,000</td>
</tr>
</tbody>
</table>

a. Compute direct materials purchased.
b. Compute direct manufacturing labor costs.
c. Compute cost of goods sold.
(Check figures: (a) $195,000 (b) $230,000 (c) $585,000)
Crossword Puzzle for Chapters 1 and 2

ACROSS
1. A resource sacrificed or forgone
3. Different costs for different _________
5. The management accountant’s attention-directing _________
7. A _________ cost increases in total as more units are produced.
11. Cost-_______ approach
12. Chief accounting officer
13. Code of professional _________
14. A planning tool
15. All costs in the income statement except cost of goods sold
18. _________ focus
20. A cost _________ is a variable that causes costs to increase or decrease over a given time period.
21. Relevant _________

DOWN
1. Supply _________
2. Matches organization’s capabilities to opportunities in marketplace
3. All direct manufacturing costs are _________ costs.
4. Includes selecting organization goals
6. _________ management versus staff management
8. _________ chain of business functions
9. A _________ cost decreases per unit as more units are produced.
10. Planning and _________ functions
15. _________ cost has three different meanings
16. Direct costs of a cost _________
17. Part of the value chain: _________ of products, services, or processes
19. $100,000/20,000 units = $5; $5 is the _________ cost
Answers and Solutions to Chapter 2 Review Questions and Exercises

Completion Statements

1. direct, indirect
2. relevant range
3. cost driver
4. inventoriable
5. Period
6. manufacturing overhead (factory overhead)
7. Conversion
8. preparing financial statements, contracts with government agencies, pricing and product-mix decisions

True-False

1. F A cost object is anything for which a measurement of costs is desired. Examples of cost objects include products, customers, projects, and departments.
2. F The statement defines cost assignment, not cost accumulation. Cost accumulation is the collection of cost data in some organized way by means of an accounting system.
3. T
4. F Variable cost per unit remains the same within the relevant range. Fixed cost per unit increases (decreases)—though not in a straight line—if the related level of total activity or volume decreases (increases). When graphed on a total basis, both variable costs and fixed costs are straight lines (linear) within the relevant range.
5. F Nonmanufacturing costs are period costs, and manufacturing costs are inventoriable costs. Television advertising is a period cost, and depreciation on the bottle-capping machines is an inventoriable cost.
6. T
7. T
8. F When work-in-process inventory decreases during the accounting period (that is, the ending inventory is less than the beginning inventory), cost of goods manufactured exceeds manufacturing costs incurred for the period. Cost of goods manufactured, therefore, is equal to manufacturing costs incurred during the period plus the decrease in work-in-process inventory. Exhibit 2-7, Panel B, text p. 39, shows the opposite case in which work-in-process inventory increases during the period.
9. T
10. F It is preferable to classify payroll fringe benefit costs of direct manufacturing labor as a direct manufacturing labor cost because payroll fringe benefit costs are a fundamental aspect of acquiring the direct manufacturing labor services.

Multiple Choice

1. c Answers (a), (b), and (d) refer to indirect costs of their respective cost objects.
2. d $64,000 ÷ 10,000 = $6.40 per unit
3. d In general, variable cost per unit and fixed costs in total can be most reliably predicted because a forecast of the level of total activity or volume is not required.
4. c $120,000 ÷ 15,000 = $8 per unit, which is also the variable cost per unit when 12,000 units are produced.
5. c Plant rent is part of manufacturing overhead costs. As a result, it is a conversion cost and an inventoriable cost.
6. a The variable portion of budgeted cost of goods sold is $4,000,000 − $800,000 = $3,200,000. Because this amount is 75% of revenues, budgeted revenues are $3,200,000 ÷ 0.75 = $4,266,667.

7. b 

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning finished goods</td>
<td>$45,000</td>
</tr>
<tr>
<td>Cost of goods manufactured</td>
<td>$340,000</td>
</tr>
<tr>
<td>Cost of goods available for sale</td>
<td>$385,000</td>
</tr>
<tr>
<td>Ending finished goods</td>
<td>$52,000</td>
</tr>
<tr>
<td>Cost of goods sold</td>
<td>$333,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>$R</td>
</tr>
<tr>
<td>Cost of goods sold</td>
<td>$333,000</td>
</tr>
<tr>
<td>Gross margin</td>
<td>$96,000</td>
</tr>
</tbody>
</table>

$R − $333,000 = $96,000

$R = $96,000 + $333,000 = $429,000

Note, the beginning and ending work-in-process inventories are not explicitly included in these computations. That’s because the cost of goods manufactured, $340,000, includes the change in work-in-process inventory.

8. b Under the traditional three-part classification of manufacturing costs:

- Prime costs = Direct material costs + Direct manufacturing labor costs
- Conversion costs = Direct manufacturing labor costs + Manufacturing overhead costs

9. b Overtime premium = $(47 − 40) \times ($18 − $12) = 7 \times 6 = $42

**Review Exercise 1**

a. Fixed manufacturing overhead = 12,000 × $6 = $72,000
   Fixed manufacturing overhead per unit = $72,000 ÷ 10,000 = $7.20

b. Variable manufacturing costs
   - 9,000 × ($32 + $20 + $15) = $603,000
   - Fixed manufacturing costs, 12,000 × $6 = 72,000
   - Variable nonmanufacturing costs, 8,000 × $3 = 24,000
   - Fixed nonmanufacturing costs, 12,000 × $4 = 48,000
   - Total costs = $747,000

**Review Exercise 2**

Variable cost per unit:

$37.50 − ($540,000 ÷ 40,000) = $37.50 − $13.50 = $24.00

or

$33.00 − ($540,000 ÷ 60,000) = $33.00 − $9.00 = $24.00

Units produced = ($600,000 + $560,000 + $40,000) ÷ $24.00
   = $1,200,000 ÷ $24.00 = 50,000 units
Review Exercise 3

a. Direct material costs:
   
   Beginning inventory $90,000
   Add purchases P
   Available for use ?
   Deduct ending inventory 95,000
   Direct materials used $190,000

   $90,000 + P − $95,000 = $190,000
   P = $190,000 − $90,000 + $95,000 = $195,000

b. Direct materials used $190,000
   Direct manufacturing labor costs L
   Manufacturing overhead costs 160,000
   Manufacturing costs incurred during the period $580,000

   $190,000 + L + $160,000 = $580,000
   L = $580,000 − $190,000 − $160,000 = $230,000

c. Two steps are used to obtain the answer. First, compute cost of goods manufactured:

   Manufacturing costs incurred during the period $580,000
   Add beginning work in process 70,000
   Manufacturing costs to account for 650,000
   Deduct ending work in process 80,000
   Cost of goods manufactured $570,000

   Second, compute cost of goods sold:

   Beginning finished goods $110,000
   Add cost of goods manufactured 570,000
   Cost of goods available for sale 680,000
   Deduct ending finished goods 95,000
   Cost of goods sold $585,000
Solution to Crossword Puzzle for Chapters 1 and 2