# Chapter 2--Cost Terminology and Cost Behaviors

## LEARNING OBJECTIVES

| | |
|---|---|
| LO 1 | What assumptions do accountants make about cost behavior, and why are these assumptions necessary |
| LO 2 | How are costs classified, and why are such classifications useful? |
| LO 3 | How does the conversion process occur in manufacturing and service companies? |
| LO 4 | What product cost categories exist, and what items compose those categories? |
| LO 5 | How is the cost of goods manufactured calculated and used in preparing an income statement? |

## QUESTION GRID

### True/False

| | Difficulty Level | | | Learning Objectives | | | | |
|---|---|---|---|---|---|---|---|---|
| | Easy | Moderate | Difficult | LO 1 | LO 2 | LO 3 | LO 4 | LO 5 |
| 1 | x | | | x | | | | |
| 2 | x | | | x | | | | |
| 3 | x | | | x | | | | |
| 4 | x | | | x | | | | |
| 5 | x | | | x | | | | |
| 6 | x | | | x | | | | |
| 7 | | x | | x | | | | |
| 8 | x | | | x | | | | |
| 9 | x | | | x | | | | |
| 10 | x | | | x | | | | |
| 11 | x | | | x | | | | |
| 12 | | x | | x | | | | |
| 13 | | x | | x | | | | |
| 14 | x | | | x | | | | |
| 15 | | x | | x | | | | |
| 16 | | x | | x | | | | |
| 17 | x | | | | x | | | |
| 18 | x | | | | x | | | |
| 19 | x | | | | x | | | |
| 20 | x | | | | x | | | |
| 21 | | x | | | | x | | |
| 22 | | x | | | | x | | |
| 23 | | x | | | | | x | |
| 24 | | x | | | | | x | |
| 25 | | x | | | | | x | |
| 26 | | x | | | | | x | |
| 27 | | x | | | | | x | |
| 28 | | x | | | | | x | |
| 29 | | x | | | | | x | |
| 30 | | x | | | | | x | |
| 31 | X | | | | | | x | |
| 32 | X | | | | | | x | |
| 33 | | x | | | | | | x |

**Completion**

| | Difficulty Level | | | Learning Objectives | | | | |
|---|---|---|---|---|---|---|---|---|
| | Easy | Moderate | Difficult | LO 1 | LO 2 | LO 3 | LO 4 | LO 5 |
| 1 | X | | | x | | | | |
| 2 | X | | | x | | | | |
| 3 | X | | | x | | | | |
| 4 | X | | | x | | | | |
| 5 | X | | | x | | | | |
| 6 | X | | | x | | | | |
| 7 | X | | | x | | | | |
| 8 | X | | | x | | | | |
| 9 | X | | | x | | | | |
| 10 | X | | | x | | | | |
| 11 | X | | | | x | | | |
| 12 | X | | | | | x | | |
| 13 | | x | | | | | x | |
| 14 | | x | | | | | x | |
| 15 | | x | | | | | x | |

**Multiple Choice**

| | Difficulty Level | | | Learning Objectives | | | | |
|---|---|---|---|---|---|---|---|---|
| | Easy | Moderate | Difficult | LO 1 | LO 2 | LO 3 | LO 4 | LO 5 |
| 1 | X | | | x | | | | |
| 2 | X | | | x | | | | |
| 3 | X | | | x | | | | |
| 4 | X | | | x | | | | |
| 5 | X | | | x | | | | |
| 6 | X | | | x | | | | |
| 7 | X | | | x | | | | |
| 8 | X | | | x | | | | |
| 9 | | x | | x | | | | |
| 10 | X | | | x | | | | |
| 11 | X | | | | x | | | |
| 12 | X | | | | x | | | |
| 13 | X | | | | x | | | |
| 14 | X | | | | x | | | |
| 15 | X | | | | x | | | |
| 16 | X | | | | x | | | |
| 17 | X | | | | x | | | |
| 18 | X | | | | x | | | |
| 19 | X | | | | x | | | |
| 20 | X | | | | x | | | |
| 21 | | x | | | x | | | |
| 22 | X | | | | x | | | |
| 23 | X | | | | x | | | |
| 24 | X | | | | x | | | |
| 25 | X | | | | x | | | |
| 26 | X | | | | x | | | |
| 27 | X | | | | x | | | |
| 28 | X | | | | x | | | |
| 29 | X | | | | x | | | |

| | Difficulty Level | | | Learning Objectives | | | | |
|---|---|---|---|---|---|---|---|---|
| | Easy | Moderate | Difficult | LO 1 | LO 2 | LO 3 | LO 4 | LO 5 |
| 30 | X | | | | | | x | |
| 31 | X | | | | | | x | |
| 32 | X | | | | | | | x |
| 33 | X | | | | | | | x |
| 34 | X | | | | | | | x |
| 35 | X | | | | | | | x |
| 36 | | x | | | | | x | |
| 37 | | x | | | | | x | |
| 38 | | x | | | | | x | |
| 39 | | x | | | | | x | |
| 40 | X | | | | | | x | |
| 41 | | x | | | | | | x |
| 42 | | x | | | | | | x |
| 43 | | x | | | | | x | |
| 44 | | x | | | | | x | |
| 45 | | x | | | | | | x |
| 46 | | x | | | | | | x |
| 47 | X | | | | | | x | |
| 48 | X | | | | | | x | |
| 49 | X | | | | | | | x |
| 50 | X | | | | | | x | |
| 51 | X | | | | | | x | |
| 52 | X | | | | | | | x |

**Short-Answer**

| | Difficulty Level | | | Learning Objectives | | | | |
|---|---|---|---|---|---|---|---|---|
| | Easy | Moderate | Difficult | LO 1 | LO 2 | LO 3 | LO 4 | LO 5 |
| 1 | | x | | x | | | | |
| 2 | | x | | x | | | | |
| 3 | | x | | | x | | | |
| 4 | | x | | | x | | | |
| 5 | | x | | | | | x | |
| 6 | | x | | | | | x | |

**Problem**

| | Difficulty Level | | | Learning Objectives | | | | |
|---|---|---|---|---|---|---|---|---|
| | Easy | Moderate | Difficult | LO 1 | LO 2 | LO 3 | LO 4 | LO 5 |
| 1 | | x | | | | | x | |
| 2 | | x | | | | | | x |
| 3 | | x | | | | | | x |
| 4 | | x | | | | | | x |
| 5 | | x | | | | | | x |
| 6 | | x | | | | | | x |
| 7 | | x | | | | | | x |
| 8 | | x | | | | | | x |

**TRUE/FALSE**

1. The portion of an asset's value on the balance sheet is referred to as an expired cost.

   ANS: F DIF: Easy OBJ: 2-1

2. The portion of an asset that was consumed during a period is referred to an expired cost.

   ANS: T DIF: Easy OBJ: 2-1

3. A variable cost remains constant on a per-unit basis as production increases

   ANS: T DIF: Easy OBJ: 2-1

4. A fixed cost remains constant on a per-unit basis as production changes.

   ANS: F DIF: Easy OBJ: 2-1

5. The relevant range is valid for all levels of activity

   ANS: F DIF: Easy OBJ: 2-1

6. An indirect cost can be easily traced to a cost object.

   ANS: F DIF: Easy OBJ: 2-1

7. Both accountants and economists view variable costs as linear in nature.

   ANS: F DIF: Moderate OBJ: 2-1

8. Fixed cost per unit varies directly with production.

   ANS: F DIF: Easy OBJ: 2-1

9. Variable cost per unit remains constant within the relevant range.

   ANS: T DIF: Easy OBJ: 2-1

10. A cost that shifts upward or downward when activity changes by a certain interval is referred to as a mixed cost.

    ANS: F DIF: Easy OBJ: 2-1

11. A cost that shifts upward or downward when activity changes by a certain interval is referred to as a step cost.

    ANS: T DIF: Easy OBJ: 2-1

12. If the cost of an additive is $5,000 + $0.50 for every unit of solvent produced, the cost is classified as a mixed cost.

    ANS: T DIF: Moderate OBJ: 2-1

13. If the cost of an additive is $5,000 + $0.50 for every unit of solvent produced, the cost is classified as a step cost.

ANS: F DIF: Moderate OBJ: 2-1

14. A predictor which has an absolute cause and effect relationship to a cost is referred to a cost driver.

ANS: T DIF: Easy OBJ: 2-1

15. A mixed cost will be an effective cost driver.

ANS: F DIF: Moderate OBJ: 2-1

16. A variable cost will be an effective cost driver.

ANS: T DIF: Moderate OBJ: 2-1

17. Unexpired costs are reflected on the balance sheet.

ANS: T DIF: Easy OBJ: 2-2

18. Expired costs are reflected on the balance sheet.

ANS: F DIF: Easy OBJ: 2-2

19. Distribution costs are an example of product costs.

ANS: F DIF: Easy OBJ: 2-2

20. Distribution costs are an example of period costs.

ANS: T DIF: Easy OBJ: 2-2

21. Retailers generally have a much high degree of conversion than do manufacturing or professional firms.

ANS: F DIF: Moderate OBJ: 2-3

22. Retailers generally have a much lower degree of conversion than do manufacturing or professional firms.

ANS: T DIF: Moderate OBJ: 2-3

23. In a service industry, direct materials are usually insignificant in amount and cannot easily be traced to a cost object.

ANS: T DIF: Moderate OBJ: 2-4

24. In a service industry, direct materials are usually significant in amount and can be easily traced to a cost object.

ANS: F DIF: Moderate OBJ: 2-4

25. There is an inverse relationship between prevention costs and failure costs.

    ANS: T DIF: Moderate OBJ: 2-4

26. There is a direct relationship between prevention costs and failure costs.

    ANS: F DIF: Moderate OBJ: 2-4

27. In an actual cost system, actual production overhead costs are accumulated in an Overhead Control account and assigned to Work in Process at the end of the period.

    ANS: T DIF: Moderate OBJ: 2-4

28. In an normal cost system, actual production overhead costs are accumulated in an Overhead Control account and assigned to Work in Process at the end of the period.

    ANS: F DIF: Moderate OBJ: 2-4

29. In a normal cost system, factory overhead is applied to Work in Process using a predetermined overhead rate.

    ANS: T DIF: Moderate OBJ: 2-4

30. In an actual cost system, factory overhead is applied to Work in Process using a predetermined overhead rate.

    ANS: F DIF: Moderate OBJ: 2-4

31. In an actual cost system, overhead is assigned to Work in Process Inventory with a debit entry to the account.

    ANS: T DIF: Easy OBJ: 2-4

32. In an actual cost system, overhead is assigned to Work in Process Inventory with a credit entry to the account.

    ANS: F DIF: Easy OBJ: 2-4

33. It is not necessary to prepare the Cost of Goods Manufactured statement prior to preparing the Cost of Goods Sold statement.

    ANS: F DIF: Moderate OBJ: 2-5

**COMPLETION**

1. Costs that can be conveniently traced to a cost object are referred to as _____ costs.

    ANS: direct

    DIF: Easy OBJ: 2-1

2. Anything for which management wants to accumulate or collect costs is known as a _____.

   ANS: cost object

   DIF: Easy OBJ: 2-1

3. Costs that cannot be conveniently traced to a cost object are known as _____ costs.

   ANS: indirect

4. A cost that remains unchanged in total within the relevant range is known as a _____ cost.

   ANS: fixed

   DIF: Easy OBJ: 2-1

5. A cost that varies in total in direct proportion to changes in activity is known as a _____ cost

   ANS: variable

   DIF: Easy OBJ: 2-1

6. The assumed range of activity that reflects the company's normal operating range is referred to as the _____.

   ANS: relevant range

   DIF: Easy OBJ: 2-1

7. A cost that remains constant on a per unit basis within the relevant range is a _____ cost.

   ANS: variable

   DIF: Easy OBJ: 2-1

8. A cost that varies inversely with the level of production is known as a _____ cost.

   ANS: fixed

   DIF: Easy OBJ: 2-1

9. A cost that has both fixed and variable components is known as a _____ cost.

   ANS: mixed

   DIF: Easy OBJ: 2-1

10. A cost that shifts upward or downward when activity changes by a certain interval is referred to as a _____ cost.

    ANS: step

    DIF: Easy OBJ: 2-1

11. Another name for inventoriable costs is _____ costs.

    ANS: product

    DIF: Easy OBJ: 2-2

12. The three stages of production for a manufacturing firm are _____, _____, and _____.

    ANS: raw materials, work in process, finished goods

    DIF: Easy OBJ: 2-3

13. Costs that are incurred to improve quality by precluding defects and improper processing are referred to as _____ costs.

    ANS: prevention

    DIF: Moderate OBJ: 2-4

14. Costs incurred for monitoring or inspecting products are known as _____ costs.

    ANS: appraisal

    DIF: Moderate OBJ: 2-4

15. Costs that result from defective units, product returns, and complaints are referred to as _____ costs.

    ANS: failure

    DIF: Moderate OBJ: 2-4

**MULTIPLE CHOICE**

1. The term "relevant range" as used in cost accounting means the range over which
   a. costs may fluctuate.
   b. cost relationships are valid.
   c. production may vary.
   d. relevant costs are incurred.

   ANS: B DIF: Easy OBJ: 2-1

2. Which of the following defines variable cost behavior?

| | Total cost reaction to increase in activity | Cost per unit reaction to increase in activity |
|---|---|---|
| a. | remains constant | remains constant |
| b. | remains constant | increases |
| c. | increases | increases |
| d. | increases | remains constant |

ANS: D DIF: Easy OBJ: 2-1

3. When cost relationships are linear, total variable prime costs will vary in proportion to changes in
   a. direct labor hours.
   b. total material cost.
   c. total overhead cost.
   d. production volume.

ANS: D DIF: Easy OBJ: 2-1

4. Which of the following would **not** generally be considered a fixed overhead cost?

| | Straight-line depreciation | Factory insurance | Units-of-production depreciation |
|---|---|---|---|
| a. | no | no | no |
| b. | yes | no | yes |
| c. | yes | yes | no |
| d. | no | yes | no |

ANS: C DIF: Easy OBJ: 2-1

5. An example of a fixed cost is
   a. total indirect material cost.
   b. total hourly wages.
   c. cost of electricity.
   d. straight-line depreciation.

ANS: D DIF: Easy OBJ: 2-1

6. A cost that remains constant in total but varies on a per-unit basis with changes in activity is called a(n)
   a. expired cost.
   b. fixed cost.
   c. variable cost.
   d. mixed cost.

ANS: B DIF: Easy OBJ: 2-1

7. A(n) _____ cost increases or decreases in intervals as activity changes.
   a. historical cost
   b. fixed cost
   c. step cost
   d. budgeted cost

   ANS: C DIF: Easy OBJ: 2-1

8. When the number of units manufactured increases, the most significant change in unit cost will be reflected as a(n)
   a. increase in the fixed element.
   b. decrease in the variable element.
   c. increase in the mixed element.
   d. decrease in the fixed element.

   ANS: D DIF: Easy OBJ: 2-1

9. Which of the following always has a direct cause-effect relationship to a cost?

| | Predictor | Cost driver |
|---|---|---|
| a. | yes | yes |
| b. | yes | no |
| c. | no | yes |
| d. | no | no |

   ANS: C DIF: Moderate OBJ: 2-1

10. A cost driver
    a. causes fixed costs to rise because of production changes.
    b. has a direct cause-effect relationship to a cost.
    c. can predict the cost behavior of a variable, but not a fixed, cost.
    d. is an overhead cost that causes distribution costs to change in distinct increments with changes in production volume.

    ANS: B DIF: Easy OBJ: 2-1

11. Product costs are deducted from revenue
    a. as expenditures are made.
    b. when production is completed.
    c. as goods are sold.
    d. to minimize taxable income.

    ANS: C DIF: Easy OBJ: 2-2

12. A selling cost is a(n)

| | product cost | period cost | inventoriable cost |
|---|---|---|---|
| a. | yes | yes | no |
| b. | yes | no | no |
| c. | no | yes | no |
| d. | no | yes | yes |

    ANS: C DIF: Easy OBJ: 2-2

13. Which of the following is **not** a product cost component?
    a. rent on a factory building
    b. indirect production labor wages
    c. janitorial supplies used in a factory
    d. commission on the sale of a product

    ANS: D DIF: Easy OBJ: 2-2

14. Period costs
    a. are generally expensed in the same period in which they are incurred.
    b. are always variable costs.
    c. remain unchanged over a given period of time.
    d. are associated with the periodic inventory method.

    ANS: A DIF: Easy OBJ: 2-2

15. Period costs include

| | distribution costs | outside processing costs | sales commissions |
|---|---|---|---|
| a. | yes | no | yes |
| b. | no | yes | yes |
| c. | no | no | no |
| d. | yes | yes | yes |

    ANS: A DIF: Easy OBJ: 2-2

16. The three primary inventory accounts in a manufacturing company are
    a. Merchandise Inventory, Supplies Inventory, and Finished Goods Inventory.
    b. Merchandise Inventory, Work in Process Inventory, and Finished Goods Inventory.
    c. Supplies Inventory, Work in Process Inventory, and Finished Goods Inventory.
    d. Raw Material Inventory, Work in Process Inventory, and Finished Goods Inventory.

    ANS: D DIF: Easy OBJ: 2-2

17. Cost of Goods Sold is an
    a. unexpired product cost.
    b. expired product cost.
    c. unexpired period cost.
    d. expired period cost.

    ANS: B DIF: Easy OBJ: 2-2

18. The indirect costs of converting raw material into finished goods are called
    a. period costs.
    b. prime costs.
    c. overhead costs.
    d. conversion costs.

    ANS: C DIF: Easy OBJ: 2-2

19. Which of the following would need to be allocated to a cost object?
    a. direct material
    b. direct labor
    c. direct production costs
    d. indirect production costs

    ANS: D DIF: Easy OBJ: 2-2

20. Conversion cost does **not** include
    a. direct labor.
    b. direct material.
    c. factory depreciation.
    d. supervisors' salaries.

    ANS: B DIF: Easy OBJ: 2-2

21. The distinction between direct and indirect costs depends on whether a cost
    a. is controllable or non-controllable.
    b. is variable or fixed.
    c. can be conveniently and physically traced to a cost object under consideration.
    d. will increase with changes in levels of activity.

    ANS: C DIF: Moderate OBJ: 2-2

22. Broussard Company is a construction company that builds houses on special request. What is the proper classification of the carpenters' wages?

| | Product | Period | Direct |
|---|---|---|---|
| a. | yes | yes | no |
| b. | yes | no | yes |
| c. | no | no | no |
| d. | no | yes | yes |

    ANS: B DIF: Easy OBJ: 2-2

23. Broussard Company is a construction company that builds houses on special request. What is the proper classification of the cost of the cement building slab used?

| | Direct | Fixed |
|---|---|---|
| a. | no | no |
| b. | no | yes |
| c. | yes | yes |
| d. | yes | no |

    ANS: D DIF: Easy OBJ: 2-2

24. Broussard Company is a construction company that builds houses on special request. What is the proper classification of indirect material used?

| | Prime | Conversion | Variable |
|---|---|---|---|
| a. | no | no | no |
| b. | no | yes | yes |
| c. | yes | yes | yes |
| d. | yes | no | no |

ANS: B DIF: Easy OBJ: 2-2

25. Which of the following costs would be considered overhead in the production of chocolate chip cookies?
    a. flour
    b. chocolate chips
    c. sugar
    d. oven electricity

ANS: D DIF: Easy OBJ: 2-2

26. All costs related to the manufacturing function in a company are
    a. prime costs.
    b. direct costs.
    c. product costs.
    d. conversion costs.

ANS: C DIF: Easy OBJ: 2-2

27. Prime cost consists of

| | direct material | direct labor | overhead |
|---|---|---|---|
| a. | no | yes | no |
| b. | yes | yes | no |
| c. | yes | no | yes |
| d. | no | yes | yes |

ANS: B DIF: Easy OBJ: 2-2

28. Plastic used to manufacture dolls is a

| | prime cost | product cost | direct cost | fixed cost |
|---|---|---|---|---|
| a. | no | yes | yes | yes |
| b. | yes | no | yes | no |
| c. | yes | yes | no | yes |
| d. | yes | yes | yes | no |

ANS: D DIF: Easy OBJ: 2-2

29. The term "prime cost" refers to
    a. all manufacturing costs incurred to produce units of output.
    b. all manufacturing costs other than direct labor and raw material costs.
    c. raw material purchased and direct labor costs.
    d. the raw material used and direct labor costs.

    ANS: D DIF: Easy OBJ: 2-2

30. Conversion of inputs to outputs is recorded in the
    a. Work in Process Inventory account.
    b. Finished Goods Inventory account.
    c. Raw Material Inventory account.
    d. both a and b.

    ANS: A DIF: Easy OBJ: 2-4

31. In a perpetual inventory system, the sale of items for cash consists of two entries. One entry is a debit to Cash and a credit to Sales. The other entry is a debit to
    a. Work in Process Inventory and a credit to Finished Goods Inventory.
    b. Finished Goods Inventory and a credit to Cost of Goods Sold.
    c. Cost of Goods Sold and a credit to Finished Goods Inventory.
    d. Finished Goods Inventory and a credit to Work in Process Inventory.

    ANS: C DIF: Easy OBJ: 2-4

32. The formula to compute cost of goods manufactured is
    a. beginning Work in Process Inventory plus purchases of raw material minus ending Work in Process Inventory.
    b. beginning Work in Process Inventory plus direct labor plus direct material used plus overhead incurred minus ending Work in Process Inventory.
    c. direct material used plus direct labor plus overhead incurred.
    d. direct material used plus direct labor plus overhead incurred plus beginning Work in Process Inventory.

    ANS: B DIF: Easy OBJ: 2-5

33. The final figure in the Schedule of Cost of Goods Manufactured represents the
    a. cost of goods sold for the period.
    b. total cost of manufacturing for the period.
    c. total cost of goods started and completed this period.
    d. total cost of goods completed for the period.

    ANS: D DIF: Easy OBJ: 2-5

34. The formula for cost of goods sold for a manufacturer is
    a. beginning Finished Goods Inventory plus Cost of Goods Manufactured minus ending Finished Goods Inventory.
    b. beginning Work in Process Inventory plus Cost of Goods Manufactured minus ending Work in Process Inventory.
    c. direct material plus direct labor plus applied overhead.
    d. direct material plus direct labor plus overhead incurred plus beginning Work in Process Inventory.

    ANS: A DIF: Easy OBJ: 2-5

35. Which of the following replaces the retailing component "Purchases" in computing Cost of Goods Sold for a manufacturing company?
    a. direct material used
    b. cost of goods manufactured
    c. total prime cost
    d. cost of goods available for sale

    ANS: B DIF: Easy OBJ: 2-5

36. Costs that are incurred to preclude defects and improper processing are:
    a. prevention costs
    b. detection costs
    c. appraisal costs
    d. failure costs

    ANS: A DIF: Moderate OBJ: 2-4

37. Costs that are incurred for monitoring and inspecting are:
    a. prevention costs
    b. detection costs
    c. appraisal costs
    d. failure costs

    ANS: C DIF: Moderate OBJ: 2-4

38. Costs that are incurred when customers complain are:
    a. prevention costs
    b. detection costs
    c. appraisal costs
    d. failure costs

    ANS: D DIF: Moderate OBJ: 2-4

**Wilson Company**

The following information has been taken from the cost records of Wilson Company for the past year:

| | |
|---|---|
| Raw material used in production | $326 |
| Total manufacturing costs charged to production during the year (includes direct material, direct labor, and overhead equal to 60% of direct labor cost) | 686 |
| Cost of goods available for sale | 826 |
| Selling and Administrative expenses | 25 |

| Inventories | Beginning | Ending |
|---|---|---|
| Raw Material | $75 | $ 85 |
| Work in Process | 80 | 30 |
| Finished Goods | 90 | 110 |

39. Refer to Wilson Company. The cost of raw material purchased during the year was
    a. $316.
    b. $336.
    c. $360.
    d. $411.

    ANS: B

| | |
|---|---|
| Beginning Inventory | 75 |
| +**Purchases** | **336** |
| =Goods Available for Sale | 411 |
| -Ending Inventory | (326) |
| Materials Used in Production | 85 |

    DIF: Moderate OBJ: 2-4

40. Refer to Wilson Company. Direct labor cost charged to production during the year was
    a. $135.
    b. $216.
    c. $225.
    d. $360.

    ANS: C

| | |
|---|---|
| Total production costs | $686 |
| - Raw materials | $326 |
| Conversion Costs | $360 |
| Let x = Direct Labor | |
| Let .60x = Factory Overhead | |
| x + .60x | $360 |
| **x** | **$225** |

    DIF: Easy OBJ: 2-4

41. Refer to Wilson Company. Cost of Goods Manufactured was
    a. $636.
    b. $716.
    c. $736.
    d. $766.

    ANS: C

| | |
|---|---|
| Beginning WIP Inventory | $ 80 |
| Costs of Production | 686 |
| less: Ending WIP Inventory | (30) |
| Cost of Goods Manufactured | $736 |
| | ==== |

    DIF: Moderate OBJ: 2-5

42. Refer to Wilson Company. Cost of Goods Sold was
    a. $691.
    b. $716.
    c. $736.
    d. $801.

    ANS: B

| | |
|---|---|
| Beginning Finished Goods Inventory | $ 90 |
| Cost of Goods Manufactured | 736 |
| less: Ending Finished Goods Inventory | (110) |
| Cost of Goods Manufactured | $716 |
| | ==== |

    DIF: Moderate OBJ: 2-5

**Brandt Company.**

Brandt Company manufactures wood file cabinets. The following information is available for June 2001:

| | Beginning | Ending |
|---|---|---|
| Raw Material Inventory | $ 6,000 | $ 7,500 |
| Work in Process Inventory | 17,300 | 11,700 |
| Finished Goods Inventory | 21,000 | 16,300 |

43. Refer to Brandt Company. Direct labor is $9.60 per hour and overhead for the month was $9,600. Compute total manufacturing costs for June, if there were 1,500 direct labor hours and $21,000 of raw material was purchased.
    a. $58,500
    b. $46,500
    c. $43,500
    d. $43,100

    ANS: C

| | Begin Inv | Purch | Ending Inv | |
|---|---|---|---|---|
| Raw Materials | $6,000.00 | $21,000.00 | $(7,500.00) | $19,500.00 |
| | | Rate | Hours | |
| Direct Labor | | $ 9.60 | 1,500 | 14,400.00 |
| Overhead | | | | 9,600.00 |
| | | | | **$43,500.00** |

    DIF: Moderate OBJ: 2-4

44. Refer to Brandt Company. Direct labor is paid $9.60 per hour and overhead for the month was $9,600. What are prime costs and conversion costs, respectively if there were 1,500 direct labor hours and $21,000 of raw material was purchased?
    a. $29,100 and $33,900
    b. $33,900 and $24,000
    c. $33,900 and $29,100
    d. $24,000 and $33,900

ANS: B

| | Begin Inv | Purch | Ending Inv | |
|---|---|---|---|---|
| Raw Materials | $6,000.00 | $21,000.00 | $(7,500.00) | $19,500.00 |
| | | Rate | Hours | |
| Direct Labor | | $ 9.60 | 1,500 | 14,400.00 |
| Overhead | | | | 9,600.00 |

Prime Costs = Raw Materials + Direct Labor-- $19,500 + 14,400 = $33,900
Conversion Costs = Direct Labor + Factory Overhead--$14,400 + 9,600 - $24,000

DIF: Moderate OBJ: 2-4

45. Refer to Brandt Company. Direct labor is paid $9.60 per hour and overhead for the month was $9,600. If there were 1,500 direct labor hours and $21,000 of raw material purchased, Cost of Goods Manufactured is:
    a. $49,100.
    b. $45,000.
    c. $51,000.
    d. $49,500.

ANS: A

| | | | |
|---|---|---|---|
| Beginning WIP Inventory | | | $ 17,300 |
| | Raw Materials | $ 19,500 | |
| | Direct Labor | 14,400 | |
| | Factory Overhead | 9,600 | 43,500 |
| Ending WIP Inventory | | | (11,700) |
| | Cost of Goods Manufactured | | $ 49,100 |

DIF: Moderate OBJ: 2-5

46. Refer to Brandt Company. Direct labor is paid $9.60 per hour and overhead for the month was $9,600. If there were 1,500 direct labor hours and $21,000 of raw material purchased, how much is Cost of Goods Sold?
    a. $64,500.
    b. $59,800.
    c. $38,800.
    d. $53,800.

    ANS: D

| | | | |
|---|---|---|---|
| Beginning WIP Inventory | | | $ 17,300 |
| | Raw Materials | $ 19,500 | |
| | Direct Labor | 14,400 | |
| | Factory Overhead | 9,600 | 43,500 |
| Ending WIP Inventory | | | (11,700) |
| | Cost of Goods Manufactured | | $ 49,100 |
| Beginning Finished Goods Inventory | | | 21,000 |
| Ending Finished Goods Inventory | | | (16,300) |
| | | | $ 53,800 |

    DIF: Moderate OBJ: 2-5

47. Davis Company manufacturers desks. The beginning balance of Raw Material Inventory was $4,500; raw material purchases of $29,600 were made during the month. At month end, $7,700 of raw material was on hand. Raw material used during the month was
    a. $26,400.
    b. $34,100.
    c. $37,300.
    d. $29,600.

    ANS: A

Beginning RM Inventory + Purchases - Ending RM Inventory = RMaterials Used
$4,500 + 29,600 - 7,700 = X
X = $26,400

    DIF: Easy OBJ: 2-4

48. Urban Company manufacturers tables. If raw material used was $80,000 and Raw Material Inventory at the beginning and end of the period, respectively, was $17,000 and $21,000, what was amount of raw material was purchased?
    a. $76,000
    b. $118,000
    c. $84,000
    d. $101,000

    ANS: C

Beginning RM Inventory + Purchases - Ending RM Inventory = RMaterials Used
$17,000 + X - 21,000 = $80,000
X = $84,000

    DIF: Easy OBJ: 2-4

49. Putnam Company manufacturers computer stands. What is the beginning balance of Finished Goods Inventory if Cost of Goods Sold is $107,000; the ending balance of Finished Goods Inventory is $20,000; and Cost of Goods Manufactured is $50,000 less than Cost of Goods Sold?
    a. $70,000
    b. $77,000
    c. $157,000
    d. $127,000

ANS: A

| Beg Fin Goods Invy | + | Cost of Goods Manufactured | - | Ending Fin Goods Invy | = | COGS |
|---|---|---|---|---|---|---|
| X | + | $57,000 | - | $20,000 | = | $107,000 |

X = $70,000

DIF: Easy OBJ: 2-5

**Sharp Enterprises**

| Inventories: | March 1 | March 31 |
|---|---|---|
| Raw material | $18,000 | $15,000 |
| Work in process | 9,000 | 6,000 |
| Finished goods | 27,000 | 36,000 |

| Additional information for March: | |
|---|---|
| Raw material purchased | $42,000 |
| Direct labor payroll | 30,000 |
| Direct labor rate per hour | 7.50 |
| Overhead rate per direct labor hour | 10.00 |

50. Refer to Sharp Enterprises. For March, prime cost incurred was
    a. $75,000.
    b. $69,000.
    c. $45,000.
    d. $39,000.

ANS: A

| | Begin Inv | Purch | Ending Inv | |
|---|---|---|---|---|
| Raw Materials | $18,000.00 | $42,000.00 | $(15,000.00) | $45,000.00 |
| | | Rate | Hours | |
| Direct Labor | | $ 7.50 | 4,000 | 30,000.00 |
| | | | | **$75,000.00** |

DIF: Easy OBJ: 2-4

51. Refer to Sharp Enterprises. For March, conversion cost incurred was
    a. $30,000.
    b. $40,000.
    c. $70,000.
    d. $72,000.

    ANS: C

| | Begin Inv | Purch | Ending Inv | |
|---|---|---|---|---|
| Direct Labor | | $ 7.50 | 4,000 | 30,000.00 |
| | | Rate | Hours | |
| Overhead | | $ 10.00 | 4,000 | 40,000.00 |
| | | | | **$70,000.00** |

    DIF: Easy OBJ: 2-4

52. Refer to Sharp Enterprises. For March, Cost of Goods Manufactured was
    a. $118,000.
    b. $115,000.
    c. $112,000.
    d. $109,000.

    ANS: A

| | | | |
|---|---|---|---|
| Beginning WIP Inventory | | | $ 9,000 |
| | Raw Materials | $ 45,000 | |
| | Direct Labor | 30,000 | |
| | Factory Overhead | 40,000 | 115,000 |
| Ending WIP Inventory | | | (6,000) |
| | | | $ 118,000 |

    DIF: Easy OBJ: 2-5

**SHORT ANSWER**

1. Define relevant range and explain its significance.

    ANS:
    The relevant range is that range of activity over which a variable cost remains constant on a per-unit basis and a fixed cost remains constant in total. Managers can review the various ranges of activity and the related effects on variable cost (per-unit) and fixed cost (in total) to determine how a change in the range will affect costs and, thus, the firm's profitability.

    DIF: Moderate OBJ: 2-1

2. Define a variable cost and a fixed cost. What causes changes in these costs? Give two examples of each.

   ANS:
   A variable cost is one that remains constant on a per-unit basis but varies in total with changes in activity. Examples of variable costs include direct material, direct labor, and (possibly) utilities. A fixed cost is one that remains constant in total but varies on a per-unit basis with changes in activity. Examples of fixed costs include straight-line depreciation, insurance, and the supervisor's salary.

   DIF: Moderate OBJ: 2-1

3. What is the difference between a product cost and a period cost? Give three examples of each. What is the difference between a direct cost and indirect cost? Give two examples of each.

   ANS:
   A product cost is one that is associated with making or acquiring inventory. A period cost is any cost other than those associated with making or acquiring products and is not considered inventory. Students will have a variety of examples, but direct material, direct labor, and overhead are product costs. Selling and administrative expenses are considered period costs. A direct cost is one that is physically and conveniently traceable to a cost object. Direct material and direct labor are direct costs. An indirect cost is one that cannot be conveniently traced to a cost object. Any type of overhead cost is considered indirect.

   DIF: Moderate OBJ: 2-2

4. What are three reasons that overhead must be allocated to products?

   ANS:
   Overhead must be allocated because it is necessary to (1) determine fill cost, (2) it can motivate managers, and (3) it allows managers to compare alternative courses of action.

   DIF: Moderate OBJ: 2-2

5. Why should predetermined overhead rates be used?

   ANS:
   Predetermined overhead rates should be used for three reasons: (1) to assign overhead to Work in Process during the production cycle instead of at the end of the period; (2) to compensate for fluctuations in actual overhead costs that have no bearing on activity levels; and (3) to overcome problems of fluctuations in activity levels that have no impact on actual fixed overhead costs.

   DIF: Moderate OBJ: 2-2

6. List and explain three types of quality costs.

   ANS:
   Prevention costs--incurred to improve quality by precluding product defects and improper processing from occurring.
   Appraisal costs--incurred to find mistakes not eliminated through prevention.
   Failure costs--can be internal (scrap and rework) or external (costs of returns, warranty costs).

   DIF: Moderate OBJ: 2-4

**PROBLEM**

1. Given the following information for McCurley Corporation, prepare the necessary journal entries, assuming that the Raw Material Inventory account contains both direct and indirect material.

   a. Purchased raw material on account $28,500.
   b. Put material into production: $15,000 of direct material and $3,000 of indirect material.
   c. Accrued payroll of $90,000, of which 70 percent was direct and the remainder was indirect.
   d. Incurred and paid other overhead items of $36,000.
   e. Transferred items costing $86,500 to finished goods.
   f. Sold goods costing $71,300 on account for $124,700.

   ANS:

| | | | |
|---|---|---|---|
| a. | RM Inventory | 28,500 | |
| | A/P | | 28,500 |
| b. | WIP Inventory | 15,000 | |
| | Manufacturing OH | | 3,000 |
| | RM Inventory | | 18,000 |
| c. | WIP Inventory | 63,000 | |
| | Manufacturing OH | | 27,000 |
| | Salaries/Wages Payable | | 90,000 |
| d. | Manufacturing OH | 36,000 | |
| | Cash | | 36,000 |
| e. | FG Inventory | 86,500 | |
| | WIP Inventory | | 86,500 |
| f. | A/R | | 124,700 |
| | Sales | | 124,700 |
| | CGS | | 71,300 |
| | FG Inventory | | 71,300 |

   DIF: Moderate OBJ: 2-4

2. Prepare a Schedule of Cost of Goods Manufactured (in good form) for the Graves Company from the following information for June 20X8:

| Inventories | Beginning | Ending |
|---|---|---|
| Raw Material | $ 6,700 | $ 8,900 |
| Work in Process | 17,700 | 22,650 |
| Finished Goods | 29,730 | 19,990 |

   Additional information: purchases of raw material were $46,700; 19,700 direct labor hours were worked at $11.30 per hour; overhead costs were $33,300.

   ANS:

Graves Company
Schedule of Cost of Goods Manufactured
For the Month Ended June 30, 20X8

| | | |
|---|---|---|
| Work in Process (June 1) | | $ 17,700 |
| Raw Mat. (June 1) | $ 6,700 | |

| | | | |
|---|---|---|---|
| Purchases | 46,700 | | |
| Raw Mat. Available | 53,400 | | |
| Raw Mat. (June 30) | (8,900) | | |
| Raw Mat. Used | | $ 44,500 | |
| Direct Labor (19,700 x $11.30) | | 222,610 | |
| Manufacturing Overhead | | 33,300 | |
| Total Manufacturing Costs | | | 300,410 |
| Total Goods in Process | | | $318,110 |
| Work in Process (June 30) | | | (22,650) |
| Cost of Goods Manufactured | | | $295,460 |

DIF: Moderate OBJ: 2-5

3. In June 20X8, the Graves Company has Cost of Goods Manufactured of $296,000; beginning Finished Goods Inventory of $29,730; and ending Finished Goods Inventory of $19,990. Prepare an income statement in good form. (Ignore taxes.) The following additional information is available:

| | |
|---|---|
| Selling Expenses | $ 40,500 |
| Administrative Expenses | 19,700 |
| Sales | 475,600 |

ANS:

Graves Company
Income Statement
For the Month Ended June 30, 20X8

| | | |
|---|---|---|
| Sales | | $475,600 |
| Cost of Goods Sold: | | |
| Finished Goods (June 1) | $ 29,730 | |
| Cost of Goods Mf'd | 296,000 | |
| Total Goods Available | $325,730 | |
| Finished Goods (June 30) | (19,990) | |
| Cost of Goods Sold | | (305,740) |
| Gross Margin | | $169,860 |
| Operating Expenses: | | |
| Selling | $40,500 | |
| Administrative | 19,700 | |
| Total Operating Expenses | | (60,200) |
| Income from operations | | $109,660 |

DIF: Moderate OBJ: 2-5

4. The following information is for the Rayne Manufacturing Company for November.

| Inventories | Beginning | Ending |
|---|---|---|
| Raw Material | $17,400 | $13,200 |
| Work in Process | 31,150 | 28,975 |
| Finished Goods | 19,200 | 25,500 |

| | | | |
|---|---|---|---|
| Direct Labor (21,000 DLH @ $13) | | | |
| Raw Material Purchases | $120,000 | Insurance-Office | 2,570 |
| Indirect Labor | 11,200 | Office Supplies Expense | 900 |

| | | | |
|---|---|---|---|
| Factory Supplies Used | 350 | Insurance-Factory | 1,770 |
| Other Expenses: | | Depr. Office Equipment | 3,500 |
| Depr.-Factory Equipment | 17,300 | Repair/Maintenance-Factory | 7,400 |

Calculate total manufacturing costs, cost of goods manufactured, and cost of goods sold.

ANS:

| | | |
|---|---|---|
| Manufacturing Costs: | | |
| Raw Material (Nov. 1) | $ 17,400 | |
| Purchases | 120,000 | |
| Raw Material Available | $137,400 | |
| Raw Material (Nov. 30) | (13,200) | |
| Raw Material Used | | $124,200 |
| Direct Labor (21,000 x $13) | | 273,000 |
| Overhead: | | |
| Depr.-Factory Equipment | $17,300 | |
| Repairs/Maintenance-Factory | 7,400 | |
| Indirect Labor | 11,200 | |
| Insurance-Factory | 1,770 | |
| Factory Supplies Used | 350 | |
| Total Overhead | | 38,020 |
| Total Manufacturing Costs | | $435,220 |

| | |
|---|---|
| Cost of Goods Manufactured: | |
| Total Manufacturing Costs | $435,220 |
| Work in Process (Nov. 1) | 31,150 |
| Work in Process (Nov. 30) | (28,975) |
| Cost of Goods Manufactured | $437,395 |

| | |
|---|---|
| Cost of Goods Sold: | |
| Finished Goods (Nov. 1) | $ 19,200 |
| Cost of Goods Manufactured | 437,395 |
| Total Goods Available | $456,595 |
| Finished Goods (Nov. 30) | (25,500) |
| Cost of Goods Sold | $431,095 |

DIF: Moderate OBJ: 2-5

5. From the following information for the Galveston Company, compute prime costs and conversion costs.

| Inventories | Beginning | Ending |
|---|---|---|
| Raw Material | $ 9,900 | $ 7,600 |
| Work in Process | 44,500 | 37,800 |
| Finished Goods | 36,580 | 61,300 |

Raw material purchased during the period cost $40,800; overhead incurred and paid or accrued for the period was $21,750; and 23,600 direct labor hours were incurred at a rate of $13.75 per hour.

ANS:

| | |
|---|---|
| Prime Costs: | |
| Raw Material (Beginning) | $ 9,900 |

| | | |
|---|---|---|
| Purchases | 40,800 | |
| Raw Material Available | $50,700 | |
| Raw Material (Ending) | (7,600) | |
| Raw Material Used | | $ 43,100 |
| Direct Labor | (23,600 x $13.75) | 324,500 |
| Prime Costs | | $367,600 |
| | | |
| Conversion Costs: | | |
| Direct Labor (Above) | | $324,500 |
| Overhead | | 21,750 |
| Conversion Costs | | $346,250 |

DIF: Moderate OBJ: 2-5

6. The following miscellaneous data has been collected for a manufacturing company for the most recent year-end:

| Inventories: | Beginning | Ending |
|---|---|---|
| Raw material | $50,000 | $55,000 |
| Work in process | 40,000 | 45,000 |
| Finished goods | 60,000 | 50,000 |
| Costs recorded during the year: | | |
| Purchases of raw material | $195,000 | |
| Direct labor | 150,000 | |
| Cost of goods sold | 595,000 | |

**Required:** Prepare a cost of goods manufactured statement showing how *all* unknown amounts were determined.

ANS:

| | | |
|---|---|---|
| BEGIN WIP | $ 40,000 | |
| + DM (1) | 190,000 | |
| + DC | 150,000 | |
| + OH | ? | = $250,000 |
| - END WIP | (45000) | |
| = COGM (2) | $585,000 | |

| | | | |
|---|---|---|---|
| (1) | BEG RM | $ 50,000 | |
| | + PURCHASE | 195,000 | |
| | - END RM | (55,000) | |
| | = DM | $190,000 | |

| | | | |
|---|---|---|---|
| (2) | BEGIN FG | $ 60,000 | |
| | + COGM | ? | = $585,000 |
| | - END FG | (50,000) | |
| | = COGS | $595,000 | |

DIF: Moderate OBJ: 2-5

7. The following information was taken from the records of the Enterprise Corporation for the month of July. (There were no inventories of work in process or finished goods on July 1.)

| | Units | Cost |
|---|---|---|
| Sales during month | 8,000 | $ ? |
| Manufacturing costs for month: | | |
| Direct material | | 32,000 |
| Direct labor | | 20,000 |
| Overhead costs applied | | 15,000 |
| Overhead costs under-applied | | 800 |
| Inventories, July 31: | | |
| Work in process | 1,000 | ? |
| Finished goods | 2,000 | ? |

Indirect manufacturing costs are applied on a direct labor cost basis. The under-applied balance is due to seasonal variations and will be carried forward. The following cost estimates have been submitted for the work in process inventory of July 31: material, $3,000; direct labor, $2,000.

**Required:**

a. Determine the number of units that were completed and transferred to finished goods during the month.
b. Complete the estimate of the cost of work in process on July 31.
c. Prepare a manufacturing statement for the month.
d. Determine the cost of each unit completed during the month.
e. Determine the total amount debited to the Overhead Control accounts during the month.

ANS:

a. 8,000 SOLD + 2,000 ENDING FG = 10,000 UNITS

b.

| | | | |
|---|---|---|---|
| DM | $3,000 | | |
| DC | 2,000 | | |
| OH | 1,500 | $15,000 | x $2,000 |
| | $6,500 | $20,000 | |

c.

| | |
|---|---|
| DM | $32,000 |
| DL | 20,000 |
| OH | 15,000 |
| - END WIP | (6,500) |
| = COGM | $60,500 |

d. COGM/COMPLETE UNITS = $ 60,500 / 10,000 UNITS = $6.05/UNIT

e.

| | |
|---|---|
| OH APPLIED | $15,000 |
| + OH UNDERAPPLIED | 800 |
| ACTUAL OH | $15,800 |

DIF: Moderate OBJ: 2-5

8. The Magnolia Forest Corporation had the following account balances:

**Raw Material**

| | | | |
|---|---|---|---|
| Bal. 1/1 | 30,000 | Credits | ? |
| Debits | 420,000 | | |

**Manufacturing Overhead**

| | | | |
|---|---|---|---|
| Debits | 385,000 | Credits | ? |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Bal. 12/31 | 60,000 | | | | | | |

**Work in Process Factory Wages Payable**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Bal. 1/1 | 70,000 | Credits | 810,000 | Debits | 179,000 | Bal.1/1 | 10,000 |
| Direct material | 320,000 | | | | | Credits | 175,000 |
| | 110,000 | | | | | | |
| Overhead | 400,000 | | | | | Bal. 12/31 | 6,000 |
| Bal. 12/31 | ? | | | | | | |

**Finished Goods**

| | | | |
|---|---|---|---|
| Bal. 1/1 | 40,000 | Credits | ? |
| Debits | ? | | |
| Bal. 12/31 | 130,000 | | |

**Cost of Goods Sold**

| | | | |
|---|---|---|---|
| Debits | ? | | |

**Required**:

a. What was the cost of raw material put into production during the year?
b. How much of the material from question 1 consisted of indirect material?
c. How much of the factory labor cost for the year consisted of indirect labor?
d. What was the cost of goods manufactured for the year?
e. What was the cost of goods sold for the year (before considering under- or overapplied overhead)?
f. If overhead is applied to production on the basis of direct material, what rate was in effect during the year?
g. Was manufacturing overhead under- or overapplied? By how much?
h. Compute the ending balance in the Work in Process Inventory account. Assume that this balance consists entirely of goods started during the year. If $32,000 of this balance is direct material cost, how much of it is direct labor cost? Manufacturing overhead cost?

ANS:

a. $30,000 + $420,000 - $60,000 = $390,000
b. $390,000 - $320,000 DM = $70,000
c. $175,000 - $110,000 DL = $65,000
d. $810,000
e. $40,000 + $810,000 - $130,000 = $720,000
f. $400,000/$320,000 = 125% DM Cost
g.

| | |
|---|---|
| OH Actual | $385,000 |
| OH Applied | 400,000 |
| OH Overapplied | $ 15,000 |

h.

| | | | |
|---|---|---|---|
| Beginning WIP | $ 70,000 | DM | $32000 |
| + DM | 320,000 | DL (To Balance) | 18,000 |
| + DC | 110,000 | FOH (1) | 40,000 |
| + OH | 400,000 | End WIP | $90,000 |
| - Ending WIP | (90000) | | |
| = COGM | $810,000 | | |

(1) $32,000 x 125% = $40,000

DIF: Moderate OBJ: 2-5