

CHAPTER 2

COST TERMINOLOGY AND COST BEHAVIORS

14. a. and b.

| | <u>Per Unit</u> | <u>Per Set</u> |
|---|-----------------|----------------|
| Cardboard boxes (\$1,000 ÷ 2,000) | \$0.50 | \$ 0.50 |
| Mallets (\$12,000 ÷ 4,000) | 3.00 | 6.00 |
| Croquet balls (\$9,000 ÷ 12,000) | 0.75 | 4.50 |
| Wire hoops (\$3,600 ÷ 24,000) | 0.15 | 1.80 |
| Production worker wages (\$8,400 ÷ 2,000) | ? | 4.20 |
| Supervisor's salary (\$2,600 ÷ 2,000) | ? | 1.30 |
| Building and equipment rental (\$2,800 ÷ 2,000) | ? | 1.40 |
| Utilities (\$1,300 ÷ 2,000) | ? | 0.65 |
| Total | | <u>\$20.35</u> |

c. Estimated cost per set in March is

| | | |
|---|--|----------------|
| Cardboard boxes (\$1,000 ÷ 2,000) | | \$ 0.50 |
| Mallets (\$12,000 ÷ 4,000; \$3 × 2) | | 6.00 |
| Croquet balls (\$9,000 ÷ 12,000; \$0.75 × 6) | | 4.50 |
| Wire hoops (\$3,600 ÷ 24,000; \$0.15 × 12) | | 1.80 |
| Production worker wages (\$8,400 ÷ 2,000) | | 4.20 |
| Supervisor's salary (\$2,600 ÷ 2,500) | | 1.04 |
| Building and equipment rental (\$2,800 ÷ 2,500) | | 1.12 |
| Utilities (\$1,400 ÷ 2,500) | | 0.56 |
| Total | | <u>\$19.72</u> |

15. a. Total fixed cost

\$ 37,500

Total variable cost (15,000 tickets × \$10)

150,000

Total cost

\$187,500

b. Total cost

\$187,500

Desired profit margin (15,000 tickets × \$8)

120,000

Total sales price

\$307,500

Divided by assumed number of tickets sold

÷ 15,000

Selling price per ticket

\$ 20.50

c. Total revenue (5,000 tickets × \$20.50)

\$102,500

Total cost:

Fixed

\$37,500

Variable (5,000 × \$10)

50,000

(87,500)

Net profit

\$ 15,000

- c. The assumption made was that 15,000 tickets would be sold. The fraternity should have been informed that the fixed cost per ticket would vary, depending on the number of tickets sold. By spreading the fixed cost over fewer tickets, the fraternity would make less profit as ticket sales declined.

| | | |
|---|----------------|-------------------|
| e. Total revenue (20,000 tickets × \$20.50) | | \$ 410,000 |
| Total cost: | | |
| Fixed | \$ 37,500 | |
| Variable (20,000 × \$10) | <u>200,000</u> | <u>(237,500)</u> |
| Net profit | | <u>\$ 172,500</u> |

16. a. (1) 200 returns:

$$\text{Total cost} = \$2,000 + (\$9 \times 200) = \$3,800$$

$$\text{Cost per unit} = \$3,800 \div 200 = \$19.00$$

- (2) 500 returns:

$$\text{Total cost} = \$2,000 + (\$9 \times 500) = \$6,500$$

$$\text{Cost per unit} = \$6,500 \div 500 = \$13.00$$

- (3) 800 returns:

$$\text{Total cost} = \$2,000 + (\$9 \times 800) = \$9,200$$

$$\text{Cost per unit} = \$9,200 \div 800 = \$11.50$$

- b. The fixed cost per unit varies inversely with activity. Therefore, as the activity (tax returns prepared) increases, the fixed cost per unit decreases.

- c. $\$15,000 \div 200 = \75 ; $\$75 + \$19 = \$94$ fee to charge per return
 $\$94 \times 800 = \$75,200$ total fees; $\$75,200 - \$9,200 = \$66,000$

25. a. Rivets and aluminum = $\$12,510 + \$1,683,000 = \$1,695,510$

The janitorial supplies and the sealant are indirect materials.

- b. Aluminum cutters and welders = $\$56,160 + \$156,000 = \$212,160$

The janitorial wages and factory supervisors' salaries are indirect labor.

The salespeople's salaries are period costs.

26. a. Stainless steel, plastic, and wood blocks =

$$\$800,000 + \$5,600 + \$24,800 = \$830,400$$

- b. \$500,000 (equipment operators)

- c. \$6,000 indirect material (equipment oil and grease)

$$\$82,000 + \$272,000 = \$354,000 \text{ indirect labor (mechanics and supervisors)}$$

| | |
|--|------------------|
| 31. Direct material used | \$ 24,000 |
| Direct labor | 126,000 |
| Overhead | <u>42,000</u> |
| Current manufacturing costs | \$192,000 |
| Less increase in work in process inventory | <u>(23,000)</u> |
| Cost of goods manufactured | <u>\$169,000</u> |

Since Work in Process Inventory increased by \$23,000, current manufacturing costs must have been \$23,000 more than cost of goods manufactured.

| | | |
|--------------------------------|----------------|---------------------|
| 32. a. Beginning WIP inventory | | \$ 372,000 |
| Raw material used | \$612,000 | |
| Direct labor | 748,000 | |
| Manufacturing overhead | <u>564,000</u> | <u>1,924,000</u> |
| Total cost to account for | | \$ 2,296,000 |
| Ending WIP inventory | | <u>(436,000)</u> |
| Cost of goods manufactured | | <u>\$ 1,860,000</u> |

Note: The beginning and ending balances of Raw Material Inventory are not used because no information is given on raw material purchases for the month but the amount of RM used is specifically provided.

| | |
|----------------------------------|--------------------|
| b. Beginning FG inventory | \$ 224,000 |
| Cost of goods manufactured | <u>1,860,000</u> |
| Cost of goods available for sale | \$2,084,000 |
| Ending FG inventory | <u>(196,000)</u> |
| Cost of goods sold | <u>\$1,888,000</u> |

| | | |
|-----------------------------------|--|--------------------|
| 33. a. | Irresistible Art | |
| | Schedule of Cost of Goods Manufactured | |
| | For the Month Ended July 31, 2013 | |
| | | |
| Beginning WIP inventory | | \$ 146,400 |
| Beginning RM inventory | \$ 93,200 | |
| Raw material purchased | <u>656,000</u> | |
| Raw material available | \$ 749,200 | |
| Ending RM inventory | <u>(69,600)</u> | |
| Raw material used | \$ 679,600 | |
| Indirect material used (plugged) | <u>(175,600)</u> | |
| Direct material used (given) | | 504,000 |
| Direct labor (\$788,000 × 0.75) | | 591,000 |
| Overhead: | | |
| Various (given) | \$ 600,000 | |
| Indirect material (from above) | 175,600 | |
| Indirect labor (\$788,000 × 0.25) | <u>197,000</u> | <u>972,600</u> |
| Total cost to account for | | \$2,214,000 |
| Ending WIP inventory | | <u>(120,000)</u> |
| Cost of goods manufactured | | <u>\$2,094,000</u> |

| | | |
|----------------------------|-----------------------------------|------------------|
| b. | Irresistible Art | |
| | Schedule of Cost of Goods Sold | |
| | For the Month Ended July 31, 2013 | |
| | | |
| Beginning FG inventory | | \$ 72,000 |
| Cost of goods manufactured | | <u>2,094,000</u> |
| Goods available for sale | | \$2,166,000 |

| | |
|---------------------|--------------------|
| Ending FG inventory | <u>(104,800)</u> |
| Cost of goods sold | <u>\$2,061,200</u> |

34. a.

Targé Co.
Cost of Goods Sold Schedule
For the Month Ended March 31, 2013

| | |
|---|--------------------|
| Beginning FG inventory (<i>given</i>) | \$ 125,000 |
| Cost of goods manufactured | <u>2,537,500</u> |
| Cost of goods available for sale | \$2,662,500 |
| Ending FG inventory (<i>given</i>) | <u>(18,400)</u> |
| Cost of goods sold (<i>given</i>) | <u>\$2,644,100</u> |

b.

Targé Co.
Cost of Goods Manufactured Schedule
For the Month Ended March 31, 2013

| | | |
|--|------------------|--------------------|
| Beginning WIP inventory (<i>given</i>) | | \$ 90,000 |
| Direct material: | | |
| Beginning DM inventory (<i>given</i>) | \$ 30,000 | |
| Direct material purchased | <u>1,182,000</u> | |
| Direct material available | \$1,212,000 | |
| Ending DM inventory (<i>given</i>) | <u>(42,000)</u> | |
| Direct material used | | 1,170,000 |
| Direct labor | | 400,000 |
| Overhead | | <u>900,000</u> |
| Total cost to account for | | \$2,560,000* |
| Ending WIP inventory (\$90,000 × 0.25) | | <u>(22,500)</u> |
| Cost of goods manufactured [from (a)] | | <u>\$2,537,500</u> |

*Total cost to account for = Beg. WIP + DM used + DL + OH

$$\$2,560,000 = \$90,000 + \$1,170,000 + \text{DL} + \text{OH}$$

$$\text{DL} + \text{OH} = \$2,560,000 - \$90,000 - \$1,170,000$$

$$\text{DL} + \text{OH} = \$1,300,000$$

$$\text{OH} = 225\% \text{ of DL} = 2.25 \text{ DL}$$

$$\text{DL} + 2.25 \text{ DL} = \$1,300,000$$

$$3.25 \text{ DL} = \$1,300,000$$

$$\text{DL} = \$400,000$$

$$\text{OH} = \$400,000 \times 2.25 = \$900,000$$

c. Prime cost = DM + DL
 = \$1,170,000 + \$400,000
 = \$1,570,000

d. Conversion cost = DL + OH
 = \$400,000 + \$900,000
 = \$1,300,000