

Problem 3-27 (45 minutes)

1. The cost of raw materials put into production would be:

Raw materials inventory, 1/1	\$ 15,000
Debits (purchases of materials)	<u>120,000</u>
Materials available for use	135,000
Raw materials inventory, 12/31	<u>25,000</u>
Materials requisitioned for production	<u>\$110,000</u>

2. Of the \$110,000 in materials requisitioned for production, \$90,000 was debited to Work in Process as direct materials. Therefore, the difference of \$20,000 would have been debited to Manufacturing Overhead as indirect materials.

3. Total factory wages accrued during the year (credits to the Factory Wages Payable account)..... \$180,000

Less direct labor cost (from Work in Process)	<u>150,000</u>
Indirect labor cost	<u>\$ 30,000</u>

4. The cost of goods manufactured would have been \$470,000—the credits to the Work in Process account.

5. The Cost of Goods Sold for the year would have been:

Finished goods inventory, 1/1	\$ 40,000
Add: Cost of goods manufactured (from Work in Process) ..	<u>470,000</u>
Goods available for sale.....	510,000
Finished goods inventory, 12/31.....	<u>60,000</u>
Cost of goods sold	<u>\$450,000</u>

Problem 3-27 (continued)

6. The predetermined overhead rate would have been:

$$\begin{aligned} \text{Predetermined overhead rate} &= \frac{\text{Estimated total manufacturing overhead cost}}{\text{Estimated total amount of the allocation base}} \\ &= \frac{\$240,000}{\$150,000 \text{ direct labor cost}} = 160\% \text{ of direct labor cost} \end{aligned}$$

7. Manufacturing overhead would have been overapplied by \$10,000, computed as follows:

Actual manufacturing overhead cost for the year (debits) .	\$230,000
Applied manufacturing overhead cost (from Work in Process—this would have been the credits to the Manufacturing Overhead account)	<u>240,000</u>
Overapplied overhead	<u>\$(10,000)</u>

8. The ending balance in Work in Process is \$30,000. Direct materials make up \$9,200 of this balance, and manufacturing overhead makes up \$12,800. The computations are:

Balance, Work in Process, 12/31	\$30,000
Less: Direct labor cost (given).....	(8,000)
Manufacturing overhead cost (\$8,000 × 160%).....	<u>(12,800)</u>
Direct materials cost (remainder)	<u>\$ 9,200</u>