

**Ch. 3 Practice Quiz**

Carter Corporation applies manufacturing overhead on the basis of machine-hours. At the beginning of the most recent year, the company based its predetermined overhead rate on total estimated overhead of \$135,850. Actual manufacturing overhead for the year amounted to \$145,000 and actual machine-hours were 5,660. The company's predetermined overhead rate for the year was \$24.70 per machine-hour.

Medium

87. The predetermined overhead rate was based on how many estimated machine-hours?

- A. 5,870
- B. 5,500**
- C. 6,081
- D. 5,660

$$\frac{\text{Est. Total } \$ \text{ MOH}}{\text{Est. Total MHS}} = \text{POHR} = \frac{\$135,850}{\text{Est. MHS}} = \$24.70/\text{MH}$$

$$\text{Est MHS} = 5,500 \text{ MHS}$$

Easy

88. The applied manufacturing overhead for the year was closest to:

- A. \$135,850
- B. \$149,218
- C. \$143,869**
- D. \$139,802

$$\text{POHR} \times \text{Actual MHS} = \text{Applied MHS}$$

$$\$24.70 \times 5,660 \text{ MHS} = \$139,802 \text{ applied MOH}$$

Easy

89. The overhead for the year was:

- A. \$5,198 overapplied
- B. \$3,952 underapplied
- C. \$3,952 overapplied**
- D. \$5,198 underapplied

Actual MOH	\$ 145,000
Applied MOH	- 139,802
	\$ 5,198

Underapplied MOH

MOH	
Actual	Applied
145,000	139,802
<div style="display: flex; justify-content: space-between;"> <span style="text-align: left;">\$ 5,198 under applied</span> </div>	

140. *Medium*

Babb Company is a manufacturing firm that uses job-order costing. The company's inventory balances were as follows at the beginning and end of the year:

	Beginning Balance	Ending Balance
Raw materials.....	\$11,000	\$15,000
Work in process .....	\$32,000	\$14,000
Finished goods .....	\$108,000	\$123,000

The company applies overhead to jobs using a predetermined overhead rate based on machine-hours. At the beginning of the year, the company estimated that it would work 17,000 machine-hours and incur \$272,000 in manufacturing overhead cost. The following transactions were recorded for the year:

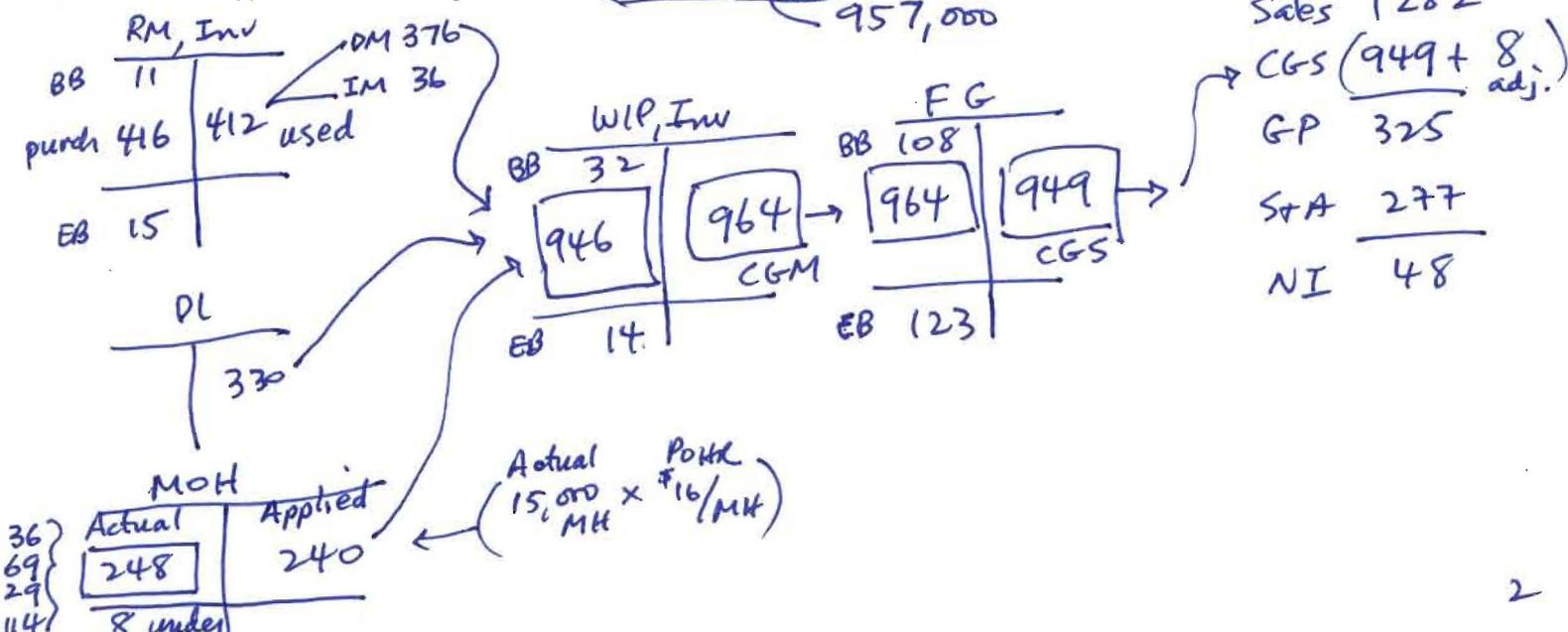
- Raw materials were purchased, \$416,000.
- Raw materials were requisitioned for use in production, \$412,000 (\$376,000 direct and \$36,000 indirect).
- The following employee costs were incurred: direct labor, \$330,000; indirect labor, \$69,000; and administrative salaries, \$157,000.
- Selling costs, \$113,000.
- Factory utility costs, \$29,000.
- Depreciation for the year was \$121,000 of which \$114,000 is related to factory operations and \$7,000 is related to selling, general, and administrative activities.
- Manufacturing overhead was applied to jobs. The actual level of activity for the year was 15,000 machine-hours.
- Sales for the year totaled \$1,282,000.

$$POHR = \frac{\$272,000}{17,000 \text{ MHs}} = \$16/\text{MH}$$

Required:

- Prepare a schedule of cost of goods manufactured in good form.
- Was the overhead underapplied or overapplied? By how much?
- Prepare an income statement for the year in good form. The company closes any underapplied or overapplied manufacturing overhead to Cost of Goods Sold.

(000)



a. Schedule of cost of goods manufactured

Estimated total manufacturing overhead (a).....	\$272,000
Estimated total machine-hours (b).....	17,000
Predetermined overhead rate (a) ÷ (b) .....	\$16.00

Actual total machine-hours (a).....	15,000
Predetermined overhead rate (b).....	\$16.00
Overhead applied (a) × (b).....	\$240,000

Direct materials:

Raw materials inventory, beginning .....	\$11,000
Add: purchases of raw materials .....	416,000
Total raw materials available .....	427,000
Deduct: raw materials inventory, ending .....	15,000
Raw materials used in production .....	412,000
Less: indirect materials.....	36,000
Direct materials .....	376,000
Direct labor.....	330,000
Manufacturing overhead applied .....	240,000
Total manufacturing costs .....	946,000
Add: Beginning work in process inventory.....	32,000
	978,000
Deduct: Ending work in process inventory.....	14,000
Cost of goods manufactured .....	\$964,000

b. Overhead underapplied or overapplied

Actual manufacturing overhead cost incurred:

Indirect materials.....	\$36,000
Indirect labor.....	69,000
Factory utilities.....	29,000
Factory depreciation.....	114,000
Manufacturing overhead cost incurred .....	248,000
Manufacturing overhead applied .....	240,000
Underapplied overhead .....	\$8,000

c. Income Statement

Beginning finished goods inventory .....	\$108,000
Cost of goods manufactured .....	964,000
Cost of goods available for sale .....	1,072,000
Ending finished goods inventory.....	123,000
Unadjusted cost of goods sold.....	949,000
Add: underapplied overhead.....	8,000
Adjusted cost of goods sold .....	\$957,000

Sales .....		\$1,282,000	
Cost of goods sold (adjusted) .....		957,000	
Gross margin .....			325,000
<b>Selling and administrative expenses:</b>			
Administrative salaries .....	\$157,000		
Selling costs .....	113,000		
Depreciation .....	7,000	277,000	
Net operating income .....			\$48,000

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Bloom's: Application*

*Learning Objective: 03-01 Compute a predetermined overhead rate*

*Learning Objective: 03-02 Apply overhead cost to jobs using a predetermined overhead rate*

*Learning Objective: 03-06 Prepare schedules of cost of goods manufactured and cost of goods sold and an income statement*

*Learning Objective: 03-07 Compute underapplied or overapplied overhead cost and prepare the journal entry to close the balance in Manufacturing Overhead to the appropriate accounts*

*Level: Medium*

152. Shapiro Corporation has provided the following data for the most recent month:

<b>Raw materials, beginning balance</b> .....	<b>\$13,000</b>
<b>Work in process, beginning balance</b> .....	<b>\$29,000</b>
<b>Finished Goods, beginning balance</b> .....	<b>\$50,000</b>
<b>Transactions:</b>	
(1) Raw materials purchases .....	\$64,000
(2) Raw materials used in production (all direct materials).....	\$69,000
(3) Direct labor .....	\$57,000
(4) Manufacturing overhead costs incurred.....	\$85,000
(5) Manufacturing overhead applied.....	\$87,000
(6) Cost of units completed and transferred from Work in Process to Finished Goods .....	\$216,000
(7) Any overapplied or underapplied manufacturing overhead is closed to Cost of Goods Sold .....	?
(8) Finished goods are sold .....	\$262,000

Required:

Prepare T-accounts for Raw Materials, Work in Process, Finished Goods, Manufacturing Overhead, and Cost of Goods Sold. Record the beginning balances and each of the transactions listed above. Finally, determine the ending balances.

<b>Raw Materials</b>			
Beginning balance	13,000	(2) Direct materials	69,000
(1) Raw materials purchases	64,000		
Ending balance	8,000		

<b>Work in Process</b>			
Beginning balance	29,000	(6) Transfer to FG	216,000
(2) Direct materials	69,000		
(3) Direct labor	57,000		
(5) Manufacturing overhead applied	87,000		
Ending balance	26,000		

<b>Finished Goods</b>			
Beginning balance	50,000	(8) Cost of goods sold	262,000
(6) Transfer from WIP	216,000		
Ending balance	4,000		

<b>Manufacturing Overhead</b>			
(4) Manufacturing overhead incurred	85,000	(5) Manufacturing overhead applied	87,000
(7) Manufacturing overhead overapplied	2,000		

<b>Cost of Goods Sold</b>			
(8) Cost of goods sold	262,000	(7) Manufacturing overhead overapplied	2,000
	260,000		

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Bloom's: Application

Learning Objective: 03-05 Use T-accounts to show the flow of costs in a job-order costing system

Level: Medium