Chapter 03 Homework

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1. value:
10.00 points

Logan Products computes its predetermined overhead rate annually on the basis of direct labor hours. At the beginning of the year, it estimated that 33,000 direct labor-hours would be required for the period's estimated level of production. The company also estimated $596,000 of fixed manufacturing overhead expenses for the coming period and variable manufacturing overhead of $2.00 per direct labor-hour. Logan's actual manufacturing overhead for the year was $728,980 and its actual total direct labor was 33,500 hours.

Required:
Compute the company's predetermined overhead rate for the year. **(Round your answer to 2 decimal places. Omit the "$" sign in your response.)**

Predetermined overhead rate	$	20.06	per DLH

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2. value:
10.00 points

Weaver Company's predetermined overhead rate is $20.00 per direct labor-hour and its direct labor wage rate is $15.00 per hour. The following information pertains to Job A-200:

Direct materials	$250
Direct labor	$75

Required:

1. What is the total manufacturing cost assigned to Job A-200? **(Omit the "$" sign in your response.)**

Total manufacturing cost	$	425

2. If Job A-200 consists of 60 units, what is the average cost assigned to each unit included in the job? **(Round your answer to 2 decimal places. Omit the "$" sign in your response.)**

Average cost	$	7.08	per unit

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3. value: **10.00 points**

"Don't tell me we've lost another bid!" exclaimed Sandy Kovallas, president of Lenko Products, Inc. "I'm afraid so," replied Doug Martin, the operations vice president. "One of our competitors underbid us by about $5,000 on the Hastings job." "I just can't figure it out," said Kovallas. "It seems we're either too high to get the job or too low to make any money on half the jobs we bid anymore. What's happened?"

Lenko Products manufactures specialized goods to customers' specifications and operates a job-order costing system. Manufacturing overhead cost is applied to jobs on the basis of direct labor cost. The following estimates were made at the beginning of the year:

	Department			
	Cutting	Machining	Assembly	Total Plant
Direct labor	$230,000	$240,000	$430,000	$ 900,000
Manufacturing overhead	$414,000	$864,000	$387,000	$ 1,665,000

Jobs require varying amounts of work in the three departments. The Hastings job, for example, would have required manufacturing costs in the three departments as follows:

	Department			
	Cutting	Machining	Assembly	Total plant
Direct materials	$ 12,400	$ 1,000	$ 6,000	$ 19,400
Direct labor	$ 6,700	$ 2,100	$12,300	$ 21,100
Manufacturing overhead	?	?	?	?

The company uses a plantwide overhead rate to apply manufacturing overhead cost to jobs.

Required:

1. Assuming the use of a plantwide overhead rate:

a. Compute the rate for the current year. **(Round your answer to the nearest whole percent. Omit the "%" sign in your response.)**

Predetermined overhead rate	185	% of direct labor cost

b. Determine the amount of manufacturing overhead cost that would have been applied to the Hastings job. **(Round your intermediate calculations and final answer to the nearest dollar amount. Omit the "$" sign in your response.)**

Manufacturing overhead cost	$	39035

2. Suppose that instead of using a plantwide overhead rate, the company had used a separate predetermined overhead rate in each department. Under these conditions:

a. Compute the rate for each department for the current year. **(Round your answers to the nearest whole percent. Omit the "%" sign in your response.)**

	Predetermined overhead rate	
Cutting Department	180	%
Machining Department	360	%
Assembly Department	90	%

b. Determine the amount of manufacturing overhead cost that would have been applied to the Hastings job. **(Round "Departmental predetermined overhead rate" to the nearest whole percent, other intermediate calculations and final answers to the nearest dollar amount. Omit the "$" sign in your response.)**

Manufacturing overhead cost	$	30690

4. Assume that it is customary in the industry to bid jobs at 100 % of total manufacturing cost (direct materials, direct labor, and applied overhead).

a. What was the company's bid price on the Hastings job if plantwide overhead rate had been used to apply overhead cost? **(Round your intermediate calculations and final answer to the nearest dollar amount. Omit the "$" sign in your response.)**

Company's bid price	$	79535

b. What would the bid price have been if departmental overhead rates had been used to apply overhead cost? **(Round "Departmental predetermined overhead rate" to the nearest whole percent, other intermediate calculations and final answers to the nearest dollar amount. Omit the "$" sign in your response.)**

Company's bid price	$	71190

5. At the end of the year, the company assembled the following actual cost data relating to all jobs worked on during the year:

	Department			
	Cutting	Machining	Assembly	Total plant
Direct materials	$ 680,000	$ 130,000	$ 450,000	$ 1,260,000
Direct labor	270,000	250,000	225,000	745,000
Manufacturing overhead	$ 530,000	$ 870,000	$ 100,000	$ 1,500,000

a. Compute the underapplied or overapplied overhead for the year, assuming that a plantwide overhead rate is used. **(Input the amount as a positive value. Round your intermediate calculations and final answer to the nearest dollar amount. Omit the "$" sign in your response.)**

Underapplied	overhead cost	$	121750

b. Compute the underapplied or overapplied overhead for the year, assuming that departmental overhead rates are used. **(Input all amounts as positive values. Round "Departmental predetermined overhead rate" to the nearest whole percent, other intermediate calculations and final answers to the nearest dollar amount. Omit the "$" sign in your response.)**

Cutting	Underapplied	overhead cost	$	44000
Machining	Overapplied	overhead cost		30000
Assembly	Overapplied	overhead cost		102500
Total Plant	Overapplied	overhead cost	$	88500

4. value: **10.00 points**

Savallas Company is highly automated and uses computers to control manufacturing operations. The company uses a job-order costing system and applies manufacturing overhead cost to products on the basis of computer-hours. The following estimates were used in preparing the predetermined overhead rate at the beginning of the year:

Computer-hours	83,000
Fixed manufacturing overhead cost	$1,274,000
Variable manufacturing overhead per computer-hour	$ 3.60

During the year, a severe economic recession resulted in cutting back production and a buildup of inventory in the company's warehouse. The company's cost records revealed the following actual cost and operating data for the year:

Computer-hours	50,000
Manufacturing overhead cost	$1,023,000
Inventories at year-end:	
Raw materials	$ 450,000
Work in process	$ 200,000
Finished goods	$1,040,000
Cost of goods sold	$2,740,000

Required:

1. Compute the company's predetermined overhead rate for the year. **(Round your answer to 2 decimal places. Omit the "$" sign in your response.)**

Predetermined overhead rate $ 18.95 per hour

2. Compute the underapplied or overapplied overhead for the year. **(Round your intermediate calculations to 2 decimal places and final answer to the nearest dollar amount. Input the amount as positive value. Omit the "$" sign in your response.)**

Underapplied overhead cost $ 75500

3. Assume the company closes any underapplied or overapplied overhead directly to cost of goods sold. Prepare the appropriate entry. **(Round your intermediate calculations to 2 decimal places and final answers to the nearest dollar amount. Omit the "$" sign in your response.)**

General Journal	Debit	Credit
Cost of goods sold	75500	
Manufacturing overhead		75500

4. Assume that the company allocates any underapplied or overapplied overhead to work in process, finished goods, and cost of goods sold on the basis of the amount of overhead applied during the year that remains in each account at the end of the year. These amounts are $37,900 for work in process, $208,450 for finished goods, and $701,150 for cost of goods sold. Prepare the journal entry to show the allocation. **(Round your intermediate calculations and percentage values to 2 decimal places and final answers to the nearest dollar amount. Omit the "$" sign in your response.)**

General Journal	Debit	Credit
Work in process	3,020	
Finished goods	16,610	
Cost of goods sold	55,870	
Manufacturing overhead		75500

5. How much higher or lower will net operating income be for the year if the underapplied or overapplied overhead is allocated rather than closed directly to cost of goods sold? **(Round your intermediate calculations and percentage values to 2 decimal places and final answers to the nearest dollar amount. Input the amount as positive value. Omit the "$" sign in your response.)**

Net operating income will be $ 19630 greater if the underapplied overhead is allocated among work in process, finished goods, and cost of goods sold rather than closed directly to cost of goods sold.

5. value: **10.00 points**

The following information is taken from the accounts of FasGrow Company. The entries in the T-accounts are summaries of the transactions that affected those accounts during the year.

Manufacturing Overhead			
(a)	382,000	(b)	439,000
		Bal.	57,000

Work in Process			
Bal.	105,500	(c)	788,200
	209,600		
	114,700		
(b)	439,000		
Bal.	80,600		

Finished Goods			
Bal.	155,000	(d)	845,200
(c)	788,200		
Bal.	98,000		

Cost of Goods Sold	
(d)	845,200

The overhead that had been applied to production during the year is distributed among the ending balances in the accounts as follows:

Work in process, ending	$ 57,070
Finished goods, ending	114,140
Cost of goods sold	267,790
Overhead applied	$ 439,000

For example, of the $80,600 ending balance in work in process, $57,070 was overhead that had been applied during the year.

Required:

1. Identify the reasons for entries (a) through (d).

Item (a):	Actual manufacturing overhead costs for the year.
Item (b):	Overhead cost applied to work in process for the year.
Item (c):	Cost of goods manufactured for the year.
Item (d):	Cost of goods sold for the year.

2. Assume that the company closes any balance in the manufacturing overhead account directly to cost of goods sold. Prepare the necessary journal entry. **(Omit the "$" sign in your response.)**

General Journal	Debit	Credit
Manufacturing overhead	57000	
Cost of goods sold		57000

3. Assume instead that the company allocates any balance in the manufacturing overhead account to the other accounts in proportion to the overhead applied during the year that is in the ending balance in each account. Prepare the necessary journal entry, with supporting computations. **(Do not round intermediate calculations. Omit the "$" sign in your response.)**

General Journal	Debit	Credit
Manufacturing overhead	57000	
Work in process		7,410
Finished goods		14,820
Cost of goods sold		34,770

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6. value: **10.00 points**

The following cost data relate to the manufacturing activities of Black Company during the just completed year:

Manufacturing overhead costs:	
Property taxes, factory	$ 2,900
Utilities, factory	4,900
Indirect labor	10,000
Depreciation, factory	23,900
Insurance, factory	5,900
Total actual manufacturing overhead costs	$ 47,600
Other costs incurred:	
Purchases of raw materials	$ 31,900
Direct labor cost	$ 39,100
Inventories:	
Raw materials, beginning	$ 8,100
Raw materials, ending	$ 6,900
Work in process, beginning	$ 5,500
Work in process, ending	$ 7,000

The company uses a predetermined overhead rate to apply overhead cost to jobs. The rate for the year was $5 per machine-hour; a total of 11,300 machine-hours was recorded for the year. All raw materials ultimately become direct materials—none are classified as indirect materials.

Required:

1. Compute the amount of underapplied or overapplied overhead cost for the year. **(Input the amount as a positive value. Omit the "$" sign in your response.)**

Overapplied overhead cost $ 8900

2. Prepare a schedule of cost of goods manufactured for the year. **(Input all amounts as positive values. Omit the "$" sign in your response.)**

Black Company Schedule of Cost Goods Manufactured		
Direct materials:		
Raw materials inventory, beginning	$ 8100	
Add : Purchase of raw materials	31900	
Raw materials available for use	40000	
Deduct : Raw materials inventory, ending	6900	
Raw materials used in production		$ 33100
Direct labor		39100
Manufacturing overhead cost applied to work in process		56500
Total manufacturing cost		128700
Add : Work in process, beginning		5500
		134200
Deduct : Work in process, ending		7000
Cost of goods manufactured		$ 127200

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Score: **60** out of 60 points (100%)