

NO POINTS

E 17-9
ALGO F
CH 17

1. Award: 0.00 points Problems? Adjust credit for all students.

Laval produces lighting fixtures. Budgeted information for its two production departments follows. The departments use machine hours (MH) and direct labor hours (DLH).

	Fabricating	Assembly
Overhead cost	\$ 1,190,000	\$ 192,000
Direct labor hours	156,750 DLH	16,000 DLH
Machine hours	85,000 MH	66,500 MH

~~EE~~ 1,382,000

Laval reports the following for one of its products, a desk lamp.

	Number of Units	Fabricating Department		Assembly Department	
		Direct Labor Hours per Unit	Machine Hours per Unit	Direct Labor Hours per Unit	Machine Hours per Unit
Desk lamp	4,000	3 DLH per unit	2 MH per unit	2 DLH per unit	0.3 MH per unit

Required:

- Determine the plantwide overhead rate using 172,750 direct labor hours as the allocation base.
- Determine the overhead cost per unit for the desk lamp using the plantwide overhead rate.
- Compute departmental overhead rates based on machine hours in the Fabricating department and direct labor hours in the Assembly department.
- Determine the overhead cost per unit for the desk lamp using the departmental overhead rates.

Complete this question by entering your answers in the tabs below.

Required 1 | Required 2 | Required 3 | Required 4

PLANTWIDE

Determine the plantwide overhead rate using 172,750 direct labor hours as the allocation base.

Budgeted overhead costs	\$ 1,382,000	=	\$ 8	per direct labor hour
Budgeted direct labor hours	172,750			

< Required 1 | Required 2 >

Explanation:

- Budgeted overhead costs (\$1,190,000 + \$192,000) = \$1,382,000
- Direct Labor Hours per Unit = 3 DLHs per unit in Fabricating + 2 DLHs in Assembly = 5 DLHs per unit
\$5.00 per DLH × 8 DLHs per unit = \$40.00 OH cost per unit.
- Fabricating department overhead rate = \$1,190,000/85,000 MH = \$14 per MH
Assembly department overhead rate = \$192,000/16,000 DLHs = \$12 per DLH

Exam prep #2
1st Problem 10/2

1. Award: 0.00 points Problems? Adjust credit for all students.

Laval produces lighting fixtures. Budgeted information for its two production departments follows. The departments use machine hours (MH) and direct labor hours (DLH).

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		Direct Labor Hours per Unit 3 DLH per unit	Machine Hours per Unit 2 MH per unit	Direct Labor Hours per Unit 2 DLH per unit	Machine Hours per Unit 0.3 MH per unit

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- Compute departmental overhead rates based on machine hours in the Fabricating department and direct labor hours in the Assembly department.
- Determine the overhead cost per unit for the desk lamp using the departmental overhead rates.

Complete this question by entering your answers in the tabs below.

Required 1	Required 2	Required 3	Required 4
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Determine the overhead cost per unit for the desk lamp using the plantwide overhead rate.

	Plantwide Overhead Rate	Hours Used	Overhead Cost per Unit
Desk lamp	\$ 8 per direct labor hour	5 DLHs	\$ 40 per unit

< Required 1 Required 3 >

PRior page

Explanation:

- Budgeted overhead costs (\$1,190,000 + \$192,000) = \$1,382,000
- Direct Labor Hours per Unit = 3 DLHs per unit in Fabricating + 2 DLHs in Assembly = 5 DLHs per unit
\$5.00 per DLH × 8 DLHs per unit = \$40.00 OH cost per unit.
- Fabricating department overhead rate = \$1,190,000/85,000 MH = \$14 per MH
Assembly department overhead rate = \$192,000/16,000 DLHs = \$12 per DLH

1 of 1 2 of 4

1. Award: 0.00 points Problems? Adjust credit for all students.

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- Compute departmental overhead rates based on machine hours in the Fabricating department and direct labor hours in the Assembly department.
- Determine the overhead cost per unit for the desk lamp using the departmental overhead rates.

Complete this question by entering your answers in the tabs below.

Required 1 Required 2 **Required 3** Required 4

Compute departmental overhead rates based on machine hours in the Fabricating department and direct labor hours in the Assembly department.

What is the departmental overhead rate for the Fabricating Department?			
Budgeted overhead costs	\$ 1,190,000	F =	\$ 14 per machine hour
Budgeted machine hours	85,000		
What is the departmental overhead rate for the Assembly Department?			
Budgeted overhead costs	\$ 192,000	F =	\$ 12 per direct labor hour
Budgeted direct labor hours	16,000		

Department OH

< Required 2 Required 4 >

Explanation:

- Budgeted overhead costs (\$1,190,000 + \$192,000) = \$1,382,000
- Direct Labor Hours per Unit = 3 DLHs per unit in Fabricating + 2 DLHs in Assembly = 5 DLHs per unit
\$5.00 per DLH × 8 DLHs per unit = \$40.00 OH cost per unit.
- Fabricating department overhead rate = \$1,190,000/85,000 MH = \$14 per MH
Assembly department overhead rate = \$192,000/16,000 DLHs = \$12 per DLH

1 of 2 394

1. Award: 0.00 points Problems? Adjust credit for all students.

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Direct labor hours	156,750 DLH	16,000 DLH
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- Determine the overhead cost per unit for the desk lamp using the plantwide overhead rate.
- Compute departmental overhead rates based on machine hours in the Fabricating department and direct labor hours in the Assembly department.
- Determine the overhead cost per unit for the desk lamp using the departmental overhead rates.

Complete this question by entering your answers in the tabs below.

Required 1	Required 2	Required 3	Required 4
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Determine the overhead cost per unit for the desk lamp using the departmental overhead rates.

Department	Departmental Overhead Rate	Hours per Unit	Overhead Cost per Unit
Fabricating	\$ <i>14</i> per machine hour	2	\$ 28 per unit
Assembly	\$ <i>12</i> per direct labor hour	2	\$ 24 per unit
Total			\$ <i>52</i> per unit

< Required 3 Required 4 >

Explanation:

- Budgeted overhead costs $(\$1,190,000 + \$192,000) = \$1,382,000$
- Direct Labor Hours per Unit = 3 DLHs per unit in Fabricating + 2 DLHs in Assembly = 5 DLHs per unit
 $\$5.00 \text{ per DLH} \times 8 \text{ DLHs per unit} = \$40.00 \text{ OH cost per unit.}$
- Fabricating department overhead rate = $\$1,190,000 / 85,000 \text{ MH} = \14 per MH
 Assembly department overhead rate = $\$192,000 / 16,000 \text{ DLHs} = \12 per DLH

Compare OH Allocation

Plantwide Dept	40	52
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10/1-494

2. Award: 0.00 points Problems? Adjust credit for all students.

FE 17-19 ALGO

CH 17

Northwest Company produces two types of glass shelving: rounded edge and squared edge. The company reports the following cost data.

	Rounded Edge	Squared Edge	Total
Direct materials	\$ 34,200	\$ 46,200	\$ 80,400
Direct labor	11,400	30,800	42,200
Overhead (using plantwide rate)	40,800	78,400	119,200
Total product cost	\$ 86,400	\$ 155,400	\$ 241,800
Units produced	11,400	15,400	
Product cost per unit	\$ 7.58	\$ 10.09	

Northwest's controller wants to apply activity-based costing to allocate the \$119,200 of overhead cost to the two products to see whether product cost per unit would change markedly from that above. The company's budgeted activity usage equals its actual activity usage for the period. The following additional information is collected.

Activity	Budgeted Cost	Activity Cost Driver	Activity Usage		Total
			Rounded Edge	Squared Edge	
Purchasing	\$ 6,100	Purchase orders	144 orders	468 orders	610 orders
Depreciation of machinery	62,200	Machine hours	500 hours	1,500 hours	2,000 hours
Setup	50,900	Setups	40 setups	210 setups	250 setups
Total	\$ 119,200				

Required:

1. Compute the activity rate for each activity using activity-based costing.
2. Compute overhead cost per unit for each of the two products using activity-based costing.
3. Determine product cost per unit for each of the two products using activity-based costing.

Complete this question by entering your answers in the tabs below.

Required 1 Required 2 Required 3

Compute the activity rate for each activity using activity-based costing. (Round "Activity rate" to 2 decimal places.)

Activity	Budgeted Cost	Budgeted Activity Usage	Activity Rate
Purchasing	\$ 6,100	610 purchase orders	\$ 10.00 per order
Depreciation	\$ 62,200	2,000 machine hours	\$ 31.10 per MH
Setup	\$ 50,900	250 setups	\$ 203.60 per setup

Total Budgeted Cost 119200

< Required 1

Required 2 >

Explanation:

3. Direct Materials: Rounded Edge = $\$34,200 / 11,400 = \3.00 ; Squared Edge = $\$46,200 / 15,400 = \3.00
Direct Labor: Rounded Edge = $\$11,400 / 11,400 = \1.00 ; Squared Edge = $\$30,800 / 15,400 = \2.00

2nd problem 292

2. Award: 0.00 points Problems? Adjust credit for all students.

Northwest Company produces two types of glass shelving: rounded edge and squared edge. The company reports the following cost data.

	Rounded Edge	Squared Edge	Total
Direct materials	\$ 34,200	\$ 46,200	\$ 80,400
Direct labor	11,400	30,800	42,200
Overhead (using plantwide rate)	40,800	78,400	119,200
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Activity	Budgeted Cost	Activity Cost Driver	Activity Usage		Total
			Rounded Edge	Squared Edge	
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Depreciation of machinery	62,200	Machine hours	500 hours	1,500 hours	2,000 hours
Setup	50,900	Setups	40 setups	210 setups	250 setups
Total	\$ 119,200				

Required:

1. Compute the activity rate for each activity using activity-based costing.
2. Compute overhead cost per unit for each of the two products using activity-based costing.
3. Determine product cost per unit for each of the two products using activity-based costing.

Complete this question by entering your answers in the tabs below.

Required 1 **Required 2** Required 3

Compute overhead cost per unit for each of the two products using activity-based costing. (Round "Activity Rate" to 2 decimal places and other answers to the nearest whole dollar amount.)

Overhead cost per unit - Rounded Edge					
Activity	Activity Usage	Activity Rate	Allocated Cost		
Purchasing	144 purchase orders	\$ 10.00 per order	\$ 1,440		
Depreciation	500 machine hours	\$ 31.10 per MH	15,550		
Setup	40 setups	\$ 203.60 per setup	8,144		
Total allocated cost			\$ 25,134		
Units produced			11,400		
Overhead cost per unit			\$ 2.20	- OH	

Overhead cost per unit - Squared Edge					
Activity	Activity Usage	Activity Rate	Allocated Cost		
Purchasing	466 purchase orders	\$ 10.00 per order	\$ 4,660		
Depreciation	1,500 machine hours	\$ 31.10 per MH	46,650		
Setup	210 setups	\$ 203.60 per setup	42,756		
Total allocated cost			\$ 94,066		
Units produced			15,400		
Overhead cost per unit			\$ 6.11	- OH	

*PER STEP #1
PAGE 2*

*NOTE
TOTAL OH
COST ALLOCATED
\$119,200*

< Required 1 **Required 3** >

Explanation:

3. Direct Materials: Rounded Edge = $\$34,200 / 11,400 = \3.00 ; Squared Edge = $\$46,200 / 15,400 = \3.00
 Direct Labor: Rounded Edge = $\$11,400 / 11,400 = \1.00 ; Squared Edge = $\$30,800 / 15,400 = \2.00

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Total product cost	\$ 86,400	\$ 155,400	\$ 241,800
Units produced	11,400	15,400	
Product cost per unit	\$ 7.58	\$ 10.09	

PLANTWIDE COST PER UNIT

Northwest's controller wants to apply activity-based costing to allocate the \$119,200 of overhead cost to the two products to see whether product cost per unit would change markedly from that above. The company's budgeted activity usage equals its actual activity usage for the period. The following additional information is collected.

Activity	Budgeted Cost	Activity Cost Driver	Activity Usage		
			Rounded Edge	Squared Edge	Total
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Setup	50,900	Setups	40 setups	210 setups	250 setups
Total	\$ 119,200				

Required:

1. Compute the activity rate for each activity using activity-based costing.
2. Compute overhead cost per unit for each of the two products using activity-based costing.
3. Determine product cost per unit for each of the two products using activity-based costing.

Complete this question by entering your answers in the tabs below.

Required 1 Required 2 **Required 3**

Determine product cost per unit for each of the two products using activity-based costing. (Round intermediate calculations and final answers to 2 decimal places.)

Per Unit	Direct Materials	Direct Labor	Overhead	Product Cost per Unit
Rounded Edge	\$ 3.00 +/- 0.05	\$ 1.00 +/- 0.05	\$ 2.20 +/- 0.05	\$ 6.20 +/- 0.05
Squared Edge	3.00 +/- 0.05	2.00 +/- 0.05	6.11 +/- 0.05	11.11 +/- 0.05

< Required 2 **Required 3** >

ACTIVITY BASED COSTING

PLANTWIDE

Compare

Explanation:

3. Direct Materials: Rounded Edge = $\$34,200 / 11,400 = \3.00 ; Squared Edge = $\$46,200 / 15,400 = \3.00
 Direct Labor: Rounded Edge = $\$11,400 / 11,400 = \1.00 ; Squared Edge = $\$30,800 / 15,400 = \2.00

*DM
DL*