

Exercises (ABC)

Olen Corporation is a diversified manufacturer of consumer goods. The company's activity-based costing system has the following seven activity cost pools:

Activity Cost Pool	Estimated Overhead Cost	Expected Activity
Labor-related	\$ 46,000	4,000 direct labor-hours
Machine-related	\$ 43,400	14,000 machine-hours
Machine setups	\$ 81,600	1,700 setups
Production orders	\$ 26,000	1,300 orders
Product testing	\$ 48,000	2,000 tests
Packaging	\$ 11,000	1,100 packages
General factory	\$108,800	8,000 direct labor-hours

Required:

1. Compute the activity rate for each activity cost pool.
2. Compute the company's predetermined overhead rate, assuming that the company uses a single plantwide predetermined overhead rate based on direct labor-hours.

We will take the estimated overhead cost and divide by the expected activity for each activity cost pool to compute each activity rate.

We will also compute the company's predetermined overhead rate, assuming that the company uses a single plantwide predetermined rate based on direct labor-hours.

Requirement 1: Compute the activity rate for each activity cost pool.

Activity Cost Pool	(a) Estimated Overhead Cost	(b) Expected Activity	(a) ÷ (b) Activity Rate
Labor-related	\$ 46,000	4,000 DLHs	\$11.50 per DLH
Machine-related	43,400	14,000 MHs	3.10 per MH
Machine setups	81,600	1,700 setups	48.00 per setup
Production orders	26,000	1,300 orders	20.00 per order
Product testing	48,000	2,000 tests	24.00 per test
Packaging	11,000	1,100 packages	10.00 per package
General factory	108,800	8,000 DLHs	13.60 per DLH
Total	<u>\$364,800</u>		

Requirement 2: Compute a single plantwide predetermined overhead rate based on direct labor-hours.

Total estimated overhead cost (c)	\$364,800	
Total expected direct labor- hours (d)	4,000	DLHs
Predetermined overhead rate (c) ÷ (d)	\$ 91.2	per DLH

Bentley Corporation is a diversified manufacturer of sporting goods. The company's activity-based costing system contains the following six activity cost pools and activity rates at the right:

Cost and activity data have been supplied for the Tennis racquet and Squash racquet product lines:

Costs and units	Tennis	Squash
Direct materials cost per unit	\$11.00	\$28.00
Direct labor cost per unit	\$15.50	\$ 7.80
Number of units produced per year	6,500	1,750

Required:

Compute the unit product cost of each product listed above.

Activity Cost Pool	Activity Rates
Labor-related	\$ 4.80 per direct labor-hour
Machine-related	\$ 17.00 per machine-hour
Machine setups	\$180.00 per setup
Production orders	\$ 55.00 per order
Shipments	\$ 62.00 per shipment
General factory	\$ 9.00 per direct labor-hour

Activity	Tennis	Squash
Direct labor-hours	8,400	1,050
Machine-hours	13,000	3,500
Machine setups	7	4
Production orders	7	4
Shipments	14	4

Required: Compute the unit product cost of each product listed above.

	Tennis		Squash	
	Expected Activity	Amount	Expected Activity	Amount
Labor-related, at \$4.80 per direct labor-hour	8,400	\$ 40,320	1,050	\$ 5,040
Machine-related, at \$17.00 per machine-hour	13,000	221,000	3,500	59,500
Machine setups, at \$180.00 per setup	7	1,260	4	720
Production orders, at \$55.00 per order	7	385	4	220
Shipments, at \$62.00 per shipment	14	868	4	248
General factory, at \$9.00 per direct labor-hour	8,400	75,600	1,050	9,450
Total overhead cost assigned (a)		<u>\$339,433</u>		<u>\$75,178</u>
Number of units produced (b)		6,500		1,750
Overhead cost per unit (a) ÷ (b)		<u>\$ 52.22</u>		<u>\$ 42.96</u>

	Tennis	Squash
Direct materials	\$11.00	\$28.00
Direct labor	15.50	7.80
Manufacturing overhead (see above)	52.22	42.96
Unit product cost	<u>\$78.72</u>	<u>\$78.76</u>