

Recap Exs (Ch. 1-4)

Cost classifications

Marwick's Pianos, Inc., purchases pianos from a large manufacturer for an average cost of \$2,450 per unit and then sells them to retail customers for an average price of \$3,125 each. The company's selling and administrative costs for a typical month are presented below:

Costs	Cost Formula
Selling:	
Advertising	\$700 per month
Sales salaries and commissions	\$950 per month, plus 8% of sales
Delivery of pianos to customers	\$30 per piano sold
Utilities	\$350 per month
Depreciation of sales facilities	\$800 per month
Administrative:	
Executive salaries	\$2,500 per month
Insurance	\$400 per month
Clerical	\$1,000 per month, plus \$20 per piano sold
Depreciation of office equipment	\$300 per month

During August, Marwick's Pianos, Inc., sold and delivered 40 pianos.

Required:

1. Prepare a traditional format income statement for August;
2. Prepare a contribution format income statement for August. Show costs and revenues on both total and a per unit basis through contribution margin.
3. Refer to the Income statement you prepared in (2) above. Why might it be misleading to show the fixed costs on a per unit basis?

Solutions

1.

**Marwick's Pianos, Inc.
Traditional Income Statement
For the Month of August**

Sales (40 pianos × \$3,125 per piano)		\$125,000
Cost of goods sold (40 pianos × \$2,450 per piano)		<u>98,000</u>
Gross margin		27,000
Selling and administrative expenses:		
Selling expenses:		
Advertising	\$ 700	
Sales salaries and commissions [\$950 + (8% × \$125,000)]	10,950	
Delivery of pianos (40 pianos × \$30 per piano)	1,200	
Utilities	350	
Depreciation of sales facilities	<u>800</u>	
Total selling expenses	<u>14,000</u>	
Administrative expenses:		
Executive salaries	2,500	
Insurance	400	
Clerical [\$1,000 + (40 pianos × \$20 per piano)]	1,800	
Depreciation of office equipment	<u>300</u>	
Total administrative expenses	<u>5,000</u>	
Total selling and administrative expenses		<u>19,000</u>
Net operating income		<u>\$ 8,000</u>

Solutions

2.

Marwick's Pianos, Inc.
Contribution Format Income Statement
For the Month of August

	Total	Per Piano
Sales (40 pianos × \$3,125 per piano)	<u>\$125,000</u>	<u>\$3,125</u>
Variable expenses:		
Cost of goods sold (40 pianos × \$2,450 per piano)	98,000	2,450
Sales commissions (8% × \$125,000)	10,000	250
Delivery of pianos (40 pianos × \$30 per piano)	1,200	30
Clerical (40 pianos × \$20 per piano)	<u>800</u>	<u>20</u>
Total variable expenses	<u>110,000</u>	<u>2,750</u>
Contribution margin	<u>15,000</u>	<u>\$ 375</u>
Fixed expenses:		
Advertising	700	
Sales salaries	950	
Utilities	350	
Depreciation of sales facilities	800	
Executive salaries	2,500	
Insurance	400	
Clerical	1,000	
Depreciation of office equipment	<u>300</u>	
Total fixed expenses	<u>7,000</u>	\$175
Net operating income	<u>\$ 8,000</u>	

Solutions

3. Fixed costs remain constant in total but vary on a per unit basis inversely with changes in the activity level. As the activity level increases, for example, the fixed costs will decrease on a per unit basis. Showing fixed costs on a per unit basis on the income statement might mislead management into thinking that the fixed costs behave in the same way as the variable costs. That is, management might be misled into thinking that the per unit fixed costs would be the same regardless of how many pianos were sold during the month. For this reason, fixed costs generally are shown only in totals on a contribution format income statement.

Job order costing

Lionheart Company has two manufacturing departments—Molding and Firing. The predetermined departmental overhead rates in Molding and Firing are \$23.00 per direct labor-hour and 150% of direct materials cost, respectively. The company's direct labor wage rate is \$18.00 per hour. The following information pertains to Job HC-916

	Molding	Firing
Direct materials	\$290	\$340
Direct labor	\$198	\$72

Required:

1. What is the total manufacturing cost assigned to Job HC-916?
2. If Job HC-916 consists of 20 units, what is the average cost assigned to each unit in the job?

Total direct labor-hours required for Job HC-916

Molding	
Direct labor cost	\$198
Direct labor wage rate per hour	\$18
Total direct labor hours	11

Requirement 1: What is the total manufacturing cost assigned to Job HC-916?

Direct materials		\$630
Direct labor		270
Manufacturing Overhead Molding Department	\$253	
Manufacturing Overhead Firing Department	<u>510</u>	<u>763</u>
Total manufacturing cost		<u>\$1,663</u>

Manufacturing overhead applied Molding =
Predetermined overhead rate per DLH x Actual Quantity of DLH
= \$23/DLH x 11

Manufacturing overhead applied Firing=
Predetermined overhead rate per DM\$ x DM\$
=150% x \$340

Requirement 2: If Job HC-916 consists of 20 units, what is the average cost assigned to each unit in the job?

Total manufacturing cost	\$1,663
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Number of units in the job	20
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Unit product cost	\$83.15
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Activity Based Costing

EX. 03

Greyson Company uses an activity-based costing system. At the beginning of the year, the company made the estimates at the right for costs and activity for its four activity cost pools. The expected activity for the year was distributed among the company's three products, as shown in the lower chart.

Activity Cost Pool	Activity Measure	Expected Overhead Cost	Expected Activity
Labor-related	Direct labor-hours	\$260,275	14,500 DLHs
Purchase orders	Number of orders	\$ 16,950	150 orders
Parts management	Number of part types	\$ 54,000	30 part types
General factory	Machine-hours	\$219,450	57,000 MHs

Activity Cost Pool	Expected Activity		
	Product A	Product B	Product C
Labor-related (DLHs)	4,000	7,000	3,500
Purchase orders (orders)	80	25	45
Parts management (part types)	15	5	10
General factory (MHs)	17,000	22,000	18,000

Required:

1. Compute the activity rate for each of the activity cost pools.
2. Using the ABC data, determine the total amount of overhead cost assigned to each product.

Requirement 1: Compute the activity rate for each of the activity cost pools.

Activity Cost Pool	Estimated Overhead Cost	Expected Activity		Activity Rate
	(a)	(b)		(a) ÷ (b)
Labor-related	\$260,275	14,500	DLHs	\$ 17.95 per DLH
Purchase orders	\$ 16,950	150	orders	\$ 113.00 per order
Parts management	\$ 54,000	30	part types	\$1,800.00 per part type
General factory	\$219,450	57,000	MHs	\$ 3.85 per MH
Total	<u>\$550,675</u>			

Requirement 2/1: Using the ABC data, determine the total amount of overhead cost assigned to each product.

Product A

Activity Cost Pool	Activity Rate	×	Actual Activity	=	ABC Cost
Labor-related	\$ 17.95 per DLH		4,000 DLHs		\$ 71,800
Purchase orders	\$ 113.00 per order		80 orders		9,040
Parts management	\$1,800.00 per part type		15 part types		27,000
General factory	\$ 3.85 per MH		17,000 MHs		65,450
Total					<u>\$173,290</u>

Product B

Activity Cost Pool	Activity Rate	×	Expected Activity	=	ABC Cost
Labor-related	\$ 17.95 per DLH		7,000 DLHs		\$125,650
Purchase orders	\$ 113.00 per order		25 orders		2,825
Parts management	\$1,800.00 per part type		5 part types		9,000
General factory	\$ 3.85 per MH		22,000 MHs		84,700
Total					<u>\$222,175</u>

Requirement 2/2: Using the ABC data, determine the total amount of overhead cost assigned to each product.

Product C

Activity Cost Pool	Activity Rate	×	Expected Activity	=	ABC Cost
Labor-related	\$ 17.95 per DLH		3,500 DLHs		\$ 62,825
Purchase orders	\$ 113.00 per order		45 orders		5,085
Parts management	\$1,800.00 per part type		10 part types		18,000
General factory	\$ 3.85 per MH		18,000 MHs		69,300
Total					<u>\$155,210</u>