

**Question 1**

Guelph Manufacturing produces metal picture frames. The company's income statements for the last two years are presented below:

	Last Year	This Year
Units Sold	60,000	80,000
Sales	\$850,000	\$1,200,000
Less: Cost of goods sold	<u>600,000</u>	<u>750,000</u>
Gross margin	250,000	450,000
Less: Operating expenses	<u>150,000</u>	<u>180,000</u>
Net income	<u>\$100,000</u>	<u>\$270,000</u>

The company has no beginning or ending inventories.

Required:

- Estimate the company's total variable cost per unit, and its total fixed costs per year. (Remember that this is a manufacturing firm.)
- Compute the company's contribution margin for this year.

**Question 2**

Below is the most recent contribution format income statement from Michael Scott's Paper Company:

Sales	\$150,000
<i>Less: Variable Expenses</i>	<u>\$90,000</u>
Contribution Margin	\$60,000
<i>Less: Fixed Expenses</i>	<u>\$36,000</u>
Net Income	<u>\$24,000</u>

The company sells each unit for \$15. There were no beginning or ending inventories.

Required:

- Compute the company's break-even point in units sold.
- Compute the total variable expenses at the break-even point.
- How many units would have to be sold to earn a target profit of \$18,000?
- Calculate the margin of safety in dollars
- The sales manager is convinced that a \$12,000 increase in the advertising budget would increase total sales by \$50,000. Would you advise the increased advertising outlay?

**Question 3**

The EG Company produces and sells one product: a microwave oven. The following data refer to the year just completed:

Beginning inventory	\$0
Units produced	25,000
Units sold	20,000
Sales price per unit	\$400
Selling and administrative expenses:	
Variable per unit	\$15
Fixed (total)	\$275,000
Manufacturing costs:	
Direct materials cost per unit	\$200
Direct labour cost per unit	\$50
Variable overhead cost per unit	\$30
Fixed overhead (total)	\$300,000

Assume that direct labour is a variable cost.

Required:

- Compute the cost of a single unit of product under both the absorption costing and variable costing approaches.
- Prepare an income statement for the year using absorption costing.
- Prepare an income statement for the year using variable costing.
- Reconcile the absorption costing and variable costing operating income figures in b) and c) above.

**Question 4**

Parker Company uses a job-order costing system and applies manufacturing overhead to jobs using a predetermined overhead rate based on direct labour hours (DLH). Last year, manufacturing overhead and direct labour hours were estimated at \$50,000 and 20,000 hours, respectively, for the year. In June, Job 461 was completed. Materials costs on the job totalled \$4,000, and labour costs totalled \$1,500 at \$5 per hour. At the end of the year, it was determined that the company worked 24,000 direct labour hours for the year and incurred \$54,000 in actual manufacturing overhead costs.

Required:

- a.) Job 461 contained 100 units. Determine the unit cost that would appear on the job cost sheet.
- b.) Determine the under- or overapplied overhead for the year.

**Question 5**

Cabanos Company manufactures two products, Product C and Product D. The company estimated it would incur \$160,790 in manufacturing overhead costs during the current period. Data concerning the current period's operations appear below:

	<u>Product C</u>	<u>Product D</u>
Estimated Volume	3,400 units	4,800 units
Direct Labour Hours per Unit	1.40 hour	1.90 hours
Direct Materials Cost per Unit	\$ 7.40	\$12.70
Direct Labour Cost per Unit	\$14.00	\$19.00

Required:

The company is considering using an activity-based costing system to compute unit product costs for external financial reports. The activity-based costing system would use three activity cost pools. Data relating to these activities for the current period are given below:

Activity <u>Cost Pool</u>	Estimated Overhead <u>Costs</u>	Expected Activity		
		<u>Product C</u>	<u>Product D</u>	<u>Total</u>
Machine setups	\$12,190	80	150	230
Purchase orders	79,200	730	920	1,650
General factory	<u>69,400</u>	4,760	9,120	13,880
Total	<u>\$160,790</u>			

Determine the unit product cost of each product for the current period using the activity-based costing approach.

**Question 1 Answer**

A) Variable component of cost of goods sold: \$7.50 per unit  
 Variable component of operating expenses: \$1.50 per unit  
 Total variable cost per unit: \$9.00 per unit

Fixed component of cost of goods sold: \$150,000  
 Fixed component of operating expenses: \$60,000  
 Total fixed cost: \$210,000

B) \$480,000

**Question 2 Answer**

- a) 6,000 units to break even
- b) \$54,000
- c) 9,000 units
- d) \$60,000
- e) The advertising outlay will increase net income by \$8,000, therefore it should be accepted.

**Question 3 Answer**

- a) Absorption unit cost = \$292  
 Variable unit cost = \$280
- b) Operating income = \$1,585,000
- c) Operating income = \$1,525,000
- d)

Operating income under variable costing	\$1,525,000
Add fixed manufacturing overhead cost Deferred in inventory under absorption Costing (5,000 X \$12)	<u>60,000</u>
Operating income under absorption costing	<u>\$1,585,000</u>

**Question 4 Answer**

- a) Unit cost = \$62.50
- b) Over-applied by \$6,000

**Question 5 Answer**

Using activity-based costing, the unit product cost of each product would be:

	<u>Product C</u>	<u>Product D</u>
Direct Materials	\$ 7.40	\$12.70
Direct Labour	\$14.00	\$19.00
Manufacturing Overhead	<u>\$18.55</u>	<u>\$20.36</u>
Total Unit Product Cost	<u>\$39.95</u>	<u>\$52.06</u>