

QUESTIONS

Q1. A company had the following income statement for 2005:

Sales (15,000 units)	\$300,000
Variable expenses	180,000
Fixed expenses	<u>80,000</u>
Net income	<u>\$ 40,000</u>

Answer the following questions *independently*.

- What are the company's breakeven sales in dollars?
- What are the company's breakeven sales in units?
- What is the company's contribution margin in dollars?
- What is the company's contribution margin ratio?
- How many *additional* units must be sold to increase net income from the current \$40,000 to a net income of \$100,000?

Q2. The Transporter Company produces material handling equipment for use in commercial manufacturing. As part of its operations, Transporter has three distinct product lines: belts, conveyors, and elevators. The company is currently considering the elimination of the belt product line. The belt line's sales average \$850,000 annually. Variable manufacturing costs and variable selling costs total \$320,000 and \$140,000, respectively. Fixed costs total \$450,000, of which \$120,000 are considered to be unavoidable.

- Prepare an analysis to determine the profit increase or decrease that would result if production of belts is discontinued.
- Should the company drop the belt line?

Q3. The Multiproducts Company currently purchases a component for \$30 each.

The company has excess capacity and is considering the possibility of making the component. The Cost Accounting Department estimates that the following costs would be incurred to make each unit of the component:

Direct materials	\$ 8
Direct labor	10
Variable overhead	<u>8</u>
Total manufacturing cost	<u>\$26</u> per unit

Additionally, if Multiproducts decides to make the component, additional foremen, custodial personnel, and material handlers are required at a total cost of \$150,000 per year.

- Assuming the company uses 40,000 components annually, prepare an analysis to determine if the company should make or buy the component.
- At what annual volume of components would the company change its make or buy decision?

- Q4.** For many years, Condor Company has produced a small part that it uses in the production of its standard line of equipment. The company's cost of producing one part, based on a production level of 50,000 parts per year, is:

	Cost <u>Per Part</u>
Direct materials	\$ 8.00
Direct labor	5.00
Variable overhead	10.00
Fixed overhead	<u>12.00</u>
Total	<u>\$35.00</u>

An outside supplier has offered to supply the part to Condor for \$29 per part. Condor has determined that 40% of the fixed overhead represents salaries and other costs which can be eliminated if the parts are purchased.

Required:

Prepare an analysis to determine whether Condor should accept the supplier's offer.

- Q5.** The Moony Company, which makes and sells two products, boys' and girls' bikes, has \$30,000 to spend on advertising. The company has estimated that using the \$30,000 to advertise boys' bikes would increase sales of that product by 1,000 units. Moony is uncertain, however, how many additional girls' bikes could be sold by spending \$30,000 on that product. Boys' bikes have a contribution margin of \$40 per unit and girls' bikes have a contribution margin of \$30 per unit.

Required:

Prepare an analysis to answer each of the following independent questions.

- (a) If spending \$30,000 on girls' bikes would increase its sales by 1,200 units, which product should be advertised?
- (b) By how many units would sales of girls' bikes have to increase to justify spending the \$30,000 on girls' bikes instead of boys' bikes?
- Q6.** Southern Mills is a textile manufacturing company in eastern Tennessee. Every year the company prepares a complete set of budgets. The budgeting process begins with information supplied by the Sales and Marketing department.

The balance in Accounts Receivable at the beginning of the year was \$900,000. The marketing department has predicted unit sales to be as follows:

January	1,480,000 sq. yds.
February	2,120,000 sq. yds.
March	1,300,000 sq. yds.

Selling price for the fabric is \$2.00 per square yard. Cash sales account for 25% of sales. Collections on account (non-cash sales charged to accounts receivable) are received 60% in the month of the sale and 40% in the following month.

Required:

- (a) Prepare a Sales budget for Southern Mills for the first three months of the year. (Show totals for the quarter.)
- (b) Prepare a Schedule of Expected Cash Collections for the first three months.
- (c) Calculate the balance in Accounts Receivable as of the end of March.

Q7. Southern Mills is a textile manufacturing company in eastern Tennessee. Every year the company prepares a complete set of budgets. The budgeting process begins with information supplied by the Sales and Marketing department.

The balance in inventory at the beginning of the year was 500,000 square yards of fabric. The company plans to have inventory at the end of the month equal to 50% of the following month's sales. The marketing department has predicted unit sales (in square yards of fabric) to be as follows:

January	1,480,000 sq. yds.
February	2,120,000 sq. yds.
March	1,300,000 sq. yds.
April	2,400,000 sq. yds.

Required:

- (a) Prepare a Production budget for Southern Mills for the first three months of the year. (Show totals for the quarter.)
- (b) Calculate the balance in inventory as of the end of March.

Q8. Super manufacturing Pte Limited produces “Benson car wash kit”, it operates a system of variance accounting to control the cost of production. The standard cost of producing one unit of product “Super-glow” was provided by the cost accountant as follows:

Labour cost	
0.6 labour hours at \$3 per hour	\$ 1.80
Material cost	
0.8 Kg of material at \$4 per Kg	<u>\$ 3.20</u>
	\$ 5.00

During the month, a total of 300,000 units of “Super-glow” were produced and the actual labour and material cost were as follows:

Actual labour cost	
179,000 hours at \$3.05 per hour	\$ 545,950
Actual material cost	
258,000 Kg at \$3.90 per Kg	\$1,006,200
	<u>\$1,552,150</u>

Required :

- a) Compute the following variances :
 - I) Material price
 - II) Material usage
 - III) Labour rate
 - IV) Labour efficiency
- b) For each of the variances in a(I) to a(IV), explain which manager is responsible for it and two possible causes for the variance.

Q9.

You work as accountant for AB Ltd. The company manufactures a single product and uses a standard costing system to monitor and control costs.

Standard and actual cost data for direct costs for the month of June are shown below.

Standard costs

	\$ per unit
Direct material: 4.3 kg x \$8 per kg	34.40
Direct labour: 1.5 hrs x \$4 per hr	<u>6.00</u>
Total direct costs	<u><u>40.40</u></u>

Actual results

Direct material purchased and used	=	19,500 kg at \$8.50 per kg
Direct labour costs incurred	=	\$26,286 paid for 6,740 hours
Number of units produced in June	=	4,500

Tasks

- (a) Calculate the direct cost variances for June.
 (b) Give possible 2 reasons for each variance.

Q10**BUDGET FUNCTIONAL ABG**

An organisation is constructing its budget for the coming year. It makes three products, Alpha, Beta and Gamma. Sales forecasts for the year are as follows.

	Alpha	Beta	Gamma
Northern region (in units)	3,000	5,000	4,000
Southern region (in units)	<u>5,000</u>	<u>7,000</u>	<u>6,000</u>
	<u><u>8,000</u></u>	<u><u>12,000</u></u>	<u><u>10,000</u></u>

Budgeted selling prices are as follows.

Alpha	\$60
Beta	\$110
Gamma	\$90

You are given the following unit standard cost data

	<i>Alpha</i>	<i>Beta</i>	<i>Gamma</i>
Material X (in kilos)	2.00	3.00	2.5
Material Y (in kilos)	3.00	4.00	1.5
Labour hours - Department 1	0.75	1.25	2.0
- Department 2	1.50	2.00	2.5
Machine hours - Department 1	1.00	1.50	2.5
- Department 2	2.00	2.00	3.0

You are also given the following information.

- | | | |
|--|---------------|---------------|
| | <i>X</i> | <i>Y</i> |
| (a) Material cost per kilo | \$3 | \$2 |
| | <i>Dept 1</i> | <i>Dept 2</i> |
| (b) Labour rate per hour | \$4 | \$3 |
| (d) Start and end inventory are budgeted as follows. | | |

	In units			In kilos	
	Alpha	Beta	Gamma	X	Y
Start inventory	1,000	1,200	1,500	5,000	7,500
End inventory	1,200	1,000	1,800	8,000	10,000

Tasks: Prepare the following budgets.

- Sales budget in revenue
- Production budget in units for each product
- Material purchases budget in kgs and in \$
- Departmental labour cost budgets in hours and in \$

Q11

Gatten, Inc., manufactures and sells two products: Product I9 and Product D2. Data concerning the expected production of each product and the expected total direct labor-hours (DLHs) required to produce that output appear below:

	Expected Production	Direct Labor- Hours Per Unit	Total Direct Labor-Hours
Product I9	800	7.0	5,600
Product D2	700	4.0	2,800
Total direct labor-hours			8,400

The direct labor rate is \$19.10 per DLH. The direct materials cost per unit for each product is given below:

	Direct Materials Cost per Unit
Product I9	\$298.60
Product D2	\$102.90

The company is considering adopting an activity-based costing system with the following activity cost pools, activity measures, and expected activity:

Activity Cost Pools	Activity Measures	Estimated Overhead Cost	Expected Activity		
			Product I9	Product D2	Total
Labor-related	DLHs	\$ 151,872	5,600	2,800	8,400
Production orders	Orders	41,575	300	200	500
Order size	MHs	905,972	4,600	4,800	9,400
		<u>\$ 1,099,419</u>			

Required:

- Determine the unit product cost of each of the company's two products under the traditional costing system.
- Determine the unit product cost of each of the company's two products under activity-based costing system.
- Which of the above two results are more credible? Why?