Extra Credit

Student: ____

Please address the following questions and develop comprehensive responses.

1. When Mr. Ding L. Berry, president and chief executive of Berry, Inc., first saw the segmented income statement below, he flew into his usual rage: "When will we ever start showing a real profit? I'm starting immediate steps to eliminate those two unprofitable lines!"

		Product Lines		
	Total	**U**	**V**	**W**
Sales	**$250,000**	**$100,000**	**$75,000**	**$75,000**
Variable expenses	**119,000**	**37,000**	**35,000**	**47,000**
Contribution margin	**131,000**	**63,000**	**40,000**	**28,000**
Traceable fixed expenses*	**98,000**	**31,000**	**37,000**	**30,000**
Common expenses, allocated	**32,900**	**18,000**	**10,500**	**4,400**
Net operating income (loss)	**$ 100**	**$ 14,000**	**$(7,500)**	**$(6,400)**

*These traceable expenses could be eliminated if the product lines to which they are traced were discontinued.

Required:

Recommend which segments, if any, should be eliminated. Prepare a report in good form to support your answer.

2. Tingstrom Inc. makes a range of products. The company's predetermined overhead rate is $20 per direct labor-hour, which was calculated using the following budgeted data:

Variable manufacturing overhead	**$70,000**
Fixed manufacturing overhead	**$630,000**
Direct labor-hours	**35,000**

Component B6 is used in one of the company's products. The unit cost of the component according to the company's cost accounting system is determined as follows:

Direct materials	**$30.00**
Direct labor	**25.20**
Manufacturing overhead applied	**24.00**
Unit product cost	**$79.20**

An outside supplier has offered to supply component B6 for $76 each. The outside supplier is known for quality and reliability. Assume that direct labor is a variable cost, variable manufacturing overhead is really driven by direct labor-hours, and total fixed manufacturing overhead would not be affected by this decision. Tingstrom chronically has idle capacity.

Required:

Is the offer from the outside supplier financially attractive? Why?

3. Rosiek Corporation uses part A55 in one of its products. The company's Accounting Department reports the following costs of producing the 4,000 units of the part that are needed every year.

	Per Unit
Direct materials	**$2.80**
Direct labor	**$6.30**
Variable overhead	**$8.50**
Supervisor's salary	**$2.60**
Depreciation of special equipment	**$6.80**
Allocated general overhead	**$6.10**

An outside supplier has offered to make the part and sell it to the company for $32.30 each. If this offer is accepted, the supervisor's salary and all of the variable costs, including direct labor, can be avoided. The special equipment used to make the part was purchased many years ago and has no salvage value or other use. The allocated general overhead represents fixed costs of the entire company. If the outside supplier's offer were accepted, only $4,000 of these allocated general overhead costs would be avoided. In addition, the space used to produce part A55 could be used to make more of one of the company's other products, generating an additional segment margin of $ 26,000 per year for that product.

Required:

a. Prepare a report that shows the effect on the company's total net operating income of buying part A55 from the supplier rather than continuing to make it inside the company.

b. Which alternative should the company choose?

4. The management of Sharrar Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity rather than on the estimated amount of activity for the year. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 45,000 machine-hours. In addition, capacity is 52,000 machine-hours and the actual activity for the year is 47,100 machine-hours. All of the manufacturing overhead is fixed and is $1,029,600 per year. For simplicity, it is assumed that this is the estimated manufacturing overhead for the year as well as the manufacturing overhead at capacity and the actual amount of manufacturing overhead for the year.

   Required:

   a. Determine the predetermined overhead rate if the predetermined overhead rate is based on the estimated amount of the allocation base.

   b. Determine the underapplied or overapplied overhead for the year if the predetermined overhead rate is based on the estimated amount of the allocation base.

   c. Determine the predetermined overhead rate if the predetermined overhead rate is based on the amount of the allocation base at capacity.

   d. Determine the underapplied or overapplied overhead for the year if the predetermined overhead rate is based on the amount of the allocation base at capacity.

5. The management of Amacker Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity rather than on the estimated amount of activity for the year. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 37,000 machine-hours. In addition, capacity is 43,000 machine-hours and the actual activity for the year is 38,100 machine-hours. All of the manufacturing overhead is fixed and is $604,580 per year. For simplicity, it is assumed that this is the estimated manufacturing overhead for the year as well as the manufacturing overhead at capacity and the actual amount of manufacturing overhead for the year.

   Required:

   Determine the underapplied or overapplied overhead for the year if the predetermined overhead rate is based on the amount of the allocation base at capacity.

6. The following is Alsatia Corporation's contribution format income statement for last month:

Sales	$1,400,000
Variable expenses	900,000
Contribution margin	500,000
Fixed expenses	300,000
Net operating income	$ 200,000

The company has no beginning or ending inventories and produced and sold 10,000 units during the month.

Required:

a. What is the company's contribution margin ratio?

b. What is the company's break-even in units?

c If sales increase by 100 units, by how much should net operating income increase?

d. How many units would the company have to sell to attain target profits of $225,000?

e. What is the company's margin of safety in dollars?

f. What is the company's degree of operating leverage?

7. Tanner Company's most recent contribution format income statement is presented below:

Sales	$75,000
Variable expenses	45,000
Contribution margin	30,000
Fixed expenses	36,000
Net operating loss	$(6,000)

The company sells its only product for $15 per unit. There were no beginning or ending inventories.

Required:

a. Compute the company's break-even point in units sold.

b. Compute the total variable expenses at the break-even point.

c. How many units would have to be sold to earn a target profit of $9,000?

d. The sales manager is convinced that a $6,000 increase in the advertising budget would increase total sales by $25,000. Would you advise the increased advertising outlay?

8. Deavila Inc. produces and sells two products. Data concerning those products for the most recent month appear below:

	Product Q91I	Product J53Z
Sales	$15,000	$11,000
Variable expenses	$5,850	$5,070

Fixed expenses for the entire company were $13,980.

Required:

a. Determine the overall break-even point for the company. Show your work!

b. If the sales mix shifts toward Product Q91I with no change in total sales, what will happen to the break-even point for the company? Explain.