Fall 2016 Name:_____

Breeden Security, Inc. Case Questions (15 points total)

Requirement 1: What is the company's total fixed costs? What is the variable cost per unit for the RC1 product and the RC2 product?

Hint: Categorize the costs in Exhibit 13 to determine which costs are fixed and which costs are variable.

Total Fixed Costs (1 point):	
Variable Cost per unit for the RC1 product (1 point):	
Variable Cost per unit for the RC2 product (1 point):	

Requirement 2: What is the contribution margin per unit for the RC1 product and the RC2 product?

Contribution Margin per unit for the RC1 product (1 point):	
Contribution Margin per unit for the RC2 product (1 point):	

Requirement 3: (Case Question 1) What would break-even sales volume be, assuming a ratio of two RC1s sold for each RC2 sold?

*Hint: Use the CVP formula Profit = Unit CM*Q – Total Fixed Costs where Q is the sales volume. Since there are two products, RC1 and RC2, it is helpful to think of Q in terms of one product, RC2. For each unit of RC2 sold, the company also sells 2 units of RC1. Thus, we can restate the CVP formula as:*

*Profit = (Unit CM of RC2 + 2*Unit CM of RC1)*Q_{RC2} – Total Fixed Costs. Solving this equation for a breakeven profit=0 will give the unit sales of RC2 at breakeven. Since the company sells 2 units of RC1 for each unit sold of RC2, you can then solve for $Q_{RC1} = 2*_{RC2}$.*

Break-even sales of RC1 (1 point):	
Break-even sales of RC2 (1 point):	

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Requirement 4: (Case Question 2) What level of sales would provide the profit target specified by the parent company of $210,000 for the year? (Assume that they sell all that they produce).

Hint: Rework Requirement 3 but instead of setting profit=0 at the break-even sales volume, use profit=$210,000.

Sales of RC1 to achieve target profit of $210,000 (1 point):	
Sales of RC2 to achieve target profit of $210,000 (1 point):	

Requirement 5: (Case Question 3) What would be the manufacturing cost per unit if they made and sold only 8,000 RC1 units and 4,000 RC2 units per month? In that case, what would the profit be?

Hint: Computing the manufacturing cost per unit for the RC1 and RC2 products is difficult. It requires you to move from a variable costing framework back to an absorption costing framework. To determine the manufacturing cost per unit, remember that the manufacturing cost is equal to DM, DL, and MOH (both fixed and variable). You will need to compute the overhead allocation rate to allocate fixed MOH to RC1 and RC2 products. Remember that the company allocates fixed MOH on the basis of DL$. The overhead allocation rate that you should get is $2.031 per DL$. You can use the CVP formula to compute the profit.

Manufacturing Cost per unit for the RC1 product (1 point):	
Manufacturing Cost per unit for the RC1 product (1 point):	
Profit when 8,000 RC1 units and 4,000 RC2 units are made and sold (1 point).	

Requirement 6: (Case Question 4) What would profit be if they sold 8,000 RC1 units and 4,000 RC2 units (as in Requirement 5), but produced 10,000 RC1 units and 5,000 RC2 units, putting the unsold units in finished goods inventory?

Hint: This problem is very easy to complete if you really understand 6-9 and 6-23. Determine the amount of fixed MOH that will be remaining in the ending balance of the finished goods inventory if the production volume is 2,000 more units of RC1 and 1,000 more units of RC2 (the text calls this the "MOH deferred in inventory). Since that cost appeared on the Income Statement in Requirement 5 but will not appear on the income statement in Requirement 6, you can add that cost back to the profit computed in Requirement 5.

Profit when 10,000 RC1 units and 5,000 RC2 units are produced but only 8,000 RC1 units and 4.000 RC2 units are sold (3 points):	