|  |
| --- |
| Stratford Company distributes a lightweight lawn chair that sells for $120 per unit. Variable expenses are $60.00 per unit, and fixed expenses total $180,000 annually. |

|  |
| --- |
| ***Required:*** |
| **1.** | What is the product's CM ratio? **(Do not round intermediate calculations.)** |

|  |  |
| --- | --- |
|   CM ratio | %   |

|  |  |
| --- | --- |
| **2.** | Use the CM ratio to determine the break-even point in sales dollars. **(Do not round intermediate calculations. Round your answer to the nearest dollar amount. )** |

|  |  |
| --- | --- |
|   Break-even point in sales dollars | $   |

|  |  |
| --- | --- |
| **3.** | The company estimates that sales will increase by $41,000 during the coming year due to increased demand. By how much should net operating income increase? |

|  |  |
| --- | --- |
|   Net operating income increases by | $   |

|  |  |
| --- | --- |
| **4.** | Assume that the operating results for last year were as follows: |

|  |
| --- |
|    |
|   Sales | $ | 3,360,000       |
|   Variable expenses |   | 1,680,000       |
|   |  |  |
|   Contribution margin |   | 1,680,000       |
|   Fixed expenses |   | 180,000       |
|   |  |  |
|   Net operating income | $ | 1,500,000       |
|   |  |  |
|  |

|  |  |
| --- | --- |
| **a.** | Compute the degree of operating leverage at the current level of sales. **(Round your answer to 2 decimal places.)** |

|  |  |
| --- | --- |
|   Degree of operating leverage |   |

|  |  |
| --- | --- |
| **b.** | The president expects sales to increase by 19% next year. By how much should net operating income increase? **(Round your intermediate calculations to 2 decimal places and final answer to the nearest dollar amount.)** |

|  |  |
| --- | --- |
|   Net operating income increases by | $   |

|  |  |
| --- | --- |
| **5.** | Refer to the original data. Assume that the company sold 43,500 units last year. The sales manager is convinced that a 10% reduction in the selling price, combined with a $74,000 increase in advertising expenditures, would increase annual unit sales by 50%. |

|  |  |
| --- | --- |
| **a.** | Prepare two contribution format income statements, one showing the results of last year’s operations and one showing what the results of operations would be if these changes were made. **(Input all amounts as positive values except losses which should be indicated by minus sign. Do not round intermediate calculations. Round proposed units to the nearest whole number. Round your "Per unit" answers to 2 decimal places.)** |

|  |  |  |  |
| --- | --- | --- | --- |
|   | Last Year43,500 units | Proposed      units |   |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   |             Total |             Per Unit |             Total |             Per Unit |
|    | $   | $   | $   | $   |
|    |   |   |   |   |
|   |  |  |  |  |
|    |   | $   |   | $   |
|    |   |  |   |  |
|   |  |   |  |   |
|    | $   |   | $   |   |
|   |  |   |  |   |
|  |

|  |  |
| --- | --- |
| **b.** | Would you recommend that the company do as the sales manager suggests? |
|   |   |
|   |

|  |  |
| --- | --- |
|  | Yes |
|  | No |

 |

|  |  |
| --- | --- |
| **6.** | Refer to the original data. Assume again that the company sold 43,500 units last year. The president feels that it would be unwise to change the selling price. Instead, he wants to increase the sales commission by $1.60 per unit. He thinks that this move, combined with some increase in advertising, would double annual unit sales. By how much could advertising be increased with profits remaining unchanged? Do not prepare an income statement; use the incremental analysis approach. |

|  |  |
| --- | --- |
|   The amount by which advertising can be increased is | $   |

|  |
| --- |
| Memofax, Inc., produces memory enhancement kits for fax machines. Sales have been very erratic, with some months showing a profit and some months showing a loss. The company's contribution format income statement for the most recent month is given below: |

|  |  |  |
| --- | --- | --- |
|   |   |   |
|   Sales (13,000 units at $40 per unit) | $ | 520,000    |
|   Variable expenses |   | 312,000    |
|   |  |  |
|   Contribution margin |   | 208,000    |
|   Fixed expenses |   | 232,000    |
|   |  |  |
|   Net operating loss | $ | (24,000)   |
|   |  |  |
|  |

|  |
| --- |
| ***Required:*** |
| **1.** | Compute the company's CM ratio and its break-even point in both units and dollars. |

|  |  |
| --- | --- |
|   |   |
|   CM ratio | %   |
|   Break-even point in units |       |
|   Break-even point in dollars | $       |
|  |

|  |  |
| --- | --- |
| **2.** | The sales manager feels that an $7,500 increase in the monthly advertising budget, combined with an intensified effort by the sales staff, will result in a $71,000 increase in monthly sales. If the sales manager is right, what will be the effect on the company’s monthly net operating income or loss? (Use the incremental approach in preparing your answer.) **(Input the amount as a positive value.)** |

|  |  |
| --- | --- |
|    | $   |

|  |  |
| --- | --- |
| **3.** | Refer to the original data. The president is convinced that a 10% reduction in the selling price, combined with an increase of $39,000 in the monthly advertising budget, will double unit sales. What will the new contribution format income statement look like if these changes are adopted? **(Input all amounts as positive values except losses which should be indicated by minus sign. )** |

|  |
| --- |
| Contribution Income Statement |
|    | $   |
|    |   |
|   |  |
|    |   |
|    |   |
|   |  |
|    | $   |
|   |  |
|  |

|  |  |
| --- | --- |
| **4.** | Refer to the original data. The company’s advertising agency thinks that a new package would help sales. The new package being proposed would increase packaging costs by $0.40 per unit. Assuming no other changes, how many units would have to be sold each month to earn a profit of $4,400? **(Round your intermediate calculations to 2 decimal places and final answer to the nearest whole number.)** |

|  |  |
| --- | --- |
|   Sales units   |   |

|  |  |
| --- | --- |
| **5.** | Refer to the original data. By automating, the company could slash its variable expenses in half. However, fixed costs would increase by $124,000 per month. |

|  |  |
| --- | --- |
| **a.** | Compute the new CM ratio and the new break-even point in both units and dollars. **(Do not round intermediate calculations. Round your final answers to the nearest whole number.)** |

|  |  |
| --- | --- |
|   |   |
|   CM ratio | %   |
|   Break-even point in units |       |
|   Break-even point in dollars |  $       |
|  |

|  |  |
| --- | --- |
| **b.** | Assume that the company expects to sell 20,800 units next month. Prepare two contribution format income statements, one assuming that operations are not automated and one assuming that they are. **(Input all amounts as positive values.)** |

|  |  |  |  |
| --- | --- | --- | --- |
|   | Not Automated | Automated |   |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   |          Total |         Per Unit |     % |          Total |         Per Unit |     % |
|    | $   | $  |  | $   | $  |   |
|    |   |  |  |   |  |   |
|   |  |  |  |  |  |  |
|    |   | $  |  |   | $  |   |
|    |   |  |  |   |  |  |
|   |  |   |   |  |   |   |
|    | $   |   |   | $   |   |   |
|  |  |  |  |  |  |  |