|  |
| --- |
| Vogel Co. produces three models of heating and air conditioning thermostat components. The following table summarizes data about each model: |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | BV19 | | HV41 | | MV12 | | |
| Selling price per unit | $ | 36 | $ | 60 | $ | 30 |  |
| Contribution margin per unit |  | 12 |  | 18 |  | 6 |  |
| Units sold per month |  | 4,000 |  | 2,000 |  | 6,000 |  |
|  |  |  |  |  |  |  |  |
| Total contribution margin | $ | 48,000 | $ | 36,000 | $ | 36,000 |  |
| Direct fixed expenses |  | 21,600 |  | 17,100 |  | 24,300 |  |
|  |  |  |  |  |  |  |  |
| Segment margin | $ | 26,400 | $ | 18,900 | $ | 11,700 |  |
| Allocated company fixed expenses |  | 10,000 |  | 5,000 |  | 15,000 |  |
|  |  |  |  |  |  |  |  |
| Operating income (loss) | $ | 16,400 | $ | 13,900 | $ | (3,300 | ) |
|  |  |  |  |  |  |  |  |
|  | | | | | | | |

|  |  |
| --- | --- |
| **Required:** | |
| **(a)** | On what basis does the $30,000 of company fixed expenses appear to be allocated? |
|  |  |
|  |  |

|  |  |
| --- | --- |
| **(b)** | Calculate the effect on total company net income if the MV12 model were discontinued. **(Omit the  "$" sign in your response.)** |

|  |  |  |
| --- | --- | --- |
| The net income would by | $ |  |

|  |  |
| --- | --- |
| **(c)** | Calculate the contribution margin ratio for each model. **(Round your answers to 1 decimal  place. Omit the "%" sign in your response.)** |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | BV19 |  | HV41 |  | MV12 |  |
| Contribution margin ratio |  | % |  | % |  | % |
|  | | | | | | |

|  |  |
| --- | --- |
| **(d)** | If an advertising campaign focusing on a single model were to result in an increase of 5,000 units in  the quantity of units sold, which model should be advertised? |
|  |  |
|  |  |

|  |  |
| --- | --- |
| **(e)** | If an advertising campaign focusing on a single model were to result in an increase of $15,000 in  revenues, which model should be advertised? |
|  |  |
|  |  |