**Student Name:_Chengyang Zhou__** **Date: ____9/2/2024________**

## In-class Exercise: CVP analysis

### Question 1:

Veren Inc. produces and sells two products. During the most recent month, Product F73A's sales were $27,000 and its variable expenses were $9,450. Product L75P's sales were $14,000 and its variable expenses were $5,310. The company's fixed expenses were $21,060.

**Requirement:**

(a) Determine the overall break-even point for the company in total sales dollars by assuming that the sales mix remains unchanged.

(b) If the sales mix shifts toward Product F73A, what will happen to the break-even point for the overall company's total sales (i.e., increase, decrease or no change)?

**Your answer:**

| | F73A | | L75P | | Total | |
|---|---|---|---|---|---|---|
| Sales | $27,000 | | $14,000 | | $41,000 | |
| VC | $9,450 | 0.65 | $5,310 | 0.62 | $14,760 | 0.64 |
| CM | $17,550 | | $8,690 | | $26,240 | |
| FC | | | | | $21,060 | |

$$\text{break-even} = \frac{FC}{CM\ ratio} = \frac{21060}{0.64} = 32906$$

### Question 2:

Sebree Corporation has provided the following contribution format income statement:

| | | |
|---|---|---|
| Sales (7,000 units) | $ | 280,000 |
| Variable expenses | | 168,000 |
| Contribution margin | | 112,000 |
| Fixed expenses | | 105,600 |
| Net operating income | $ | 6,400 |

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**Requirement:**

What is the estimated percent increase in net operating income as the result of a 5% increase in sales?

## Your answer:

DOL = 112000 / 6400 = 17.5
17.5 * 5% = 87.5%