Answer on Question #51160, Economics, Accounting

Task:

Assume that a company intends to sale product in the market, at a selling price of sh.9 per unit.
The V C is shs.5 per unit and the T F C is sh.2000

Required:

i. Compute the B E P in units and in shs.

ii. Assume that the company intends to make a profit before tax of 20% of sales,
determine the number of units that must be sold.

iii. Assume that the corporate tax rate is 30% and the company has a target profit
of 1640 after tax. Compute the number of units that must be sold to earn this
target profit.

Answer:

P = 9, AVC = 5, TFC = 2000

i.   BEP in units is $Q = \dfrac{TFC}{P - AVC} = \dfrac{2000}{9 - 5} = 500 units$

BEP in shs is $TR = 500 * 9 = 4500 shs$

ii. If the company intends to make a profit before tax of 20% of sales, the number of units that
must be sold is:

$$TP = P * Q - TFC - AVC * Q$$

$$Q = \frac{TFC}{0.8P - AVC} = \frac{2000}{0.8 \cdot 9 - 5} \approx 909.1 units$$

$$TP = 9 \cdot 909.1 - 2000 - 5 \cdot 909.1 = 1636.4$$

iii. If the tax rate is 30% and the company has a target profit of 1640 after tax, the number of units
that must be sold to earn this target profit is:

$$Q = \frac{\dfrac{TP}{0.7} + TFC}{P - AVC} = \frac{\dfrac{1640}{0.7} + 2000}{9 - 5} \approx 1085.7$$