Exercise: Change in Selling Price

The unit variable costs of a certain unit are \$30. The selling price of the unit is \$60. The capacity for the period is 200, and the fixed costs are \$3000.

(a) Find the break-even point when the selling price per unit is increased by 10 dirhams.

The new selling price per unit is 60 + 10 = \$70.

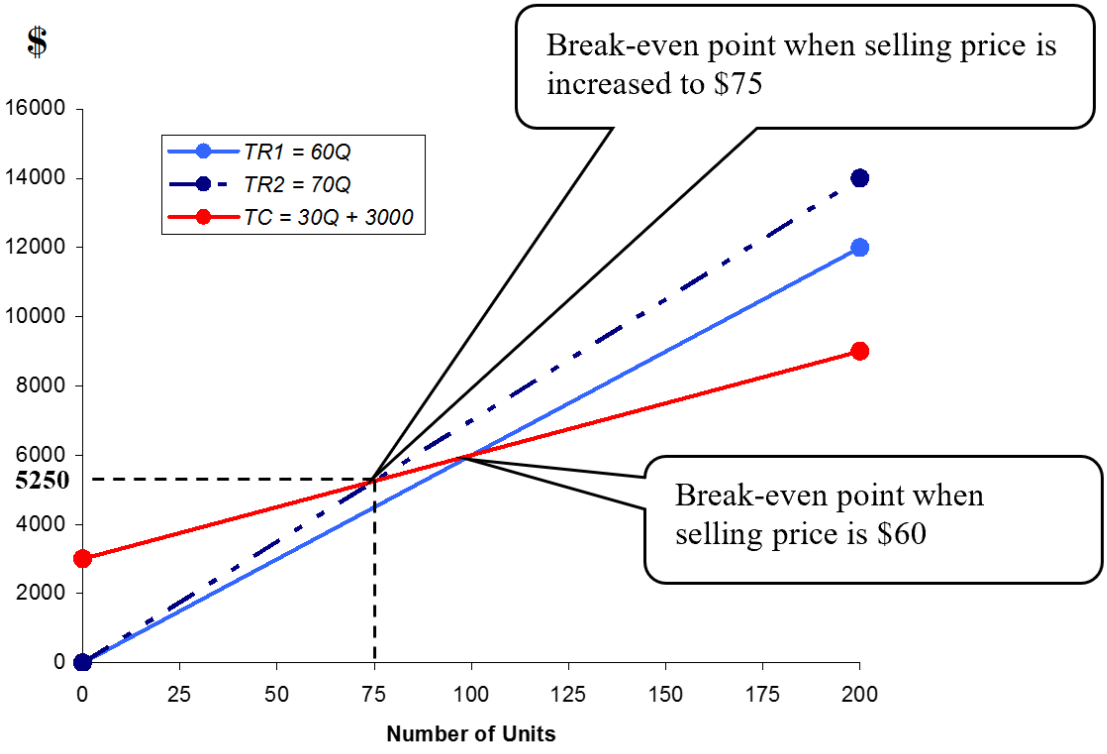
The total revenue equation is $TR_2 = 70Q$.

The total cost equation is $TC = 30Q + 3000$.

At the break-even point,

$TR = TC \Rightarrow 70Q = 30Q + 3000 \Rightarrow 40Q = 3000 \Rightarrow Q = 75$ units.

In dirhams, the break-even point is \$5250.



(b) Find the break-even point when the selling price per unit is decreased by 10%.

The new selling price per unit is $60 \times 0.90 = \$54$.

The total revenue equation is $TR_2 = 54Q$.

The total cost equation is $TC = 30Q + 3000$.

At the break-even point,

$TR = TC \Rightarrow 54Q = 30Q + 3000 \Rightarrow 24Q = 3000 \Rightarrow Q = 125$ units

In dirhams, the break-even point is \$6750.