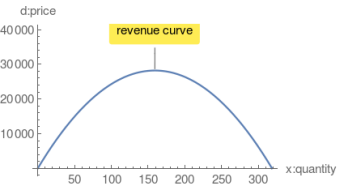


3.

3. (1) Basis for the Revenue model is a simple multiplication:

$$\text{Revenue} = \text{Price} \times \text{Quantity} = \left(-\frac{10}{9}x + 354\right) \times x = 354x - \frac{10x^2}{9}$$

Notice the latter is a quadratic:



(2) Domain starts at 0 Yen revenue up to x-intercept coordinate equal to twice the value of vertex of the Parabola:

$$\frac{1593}{5}$$

(4) The maximum occurs at the vertex x-intercept coordinate:

$$\frac{1593}{10}$$

or the amount 28196.1 Yen .