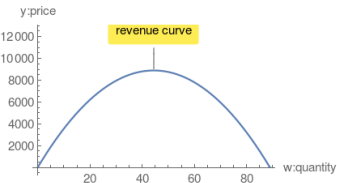


1.

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

$$\text{Revenue} = \text{Price} \times \text{Quantity} = \left(-\frac{9}{2}w + 400\right) \times w = 400w - \frac{9w^2}{2}$$

Notice the latter is a quadratic:



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

$$\frac{800}{9}$$

(D) The maximum occurs at the vertex w-intercept coordinate:

$$\frac{400}{9}$$

or the amount 8888.88 Yen .