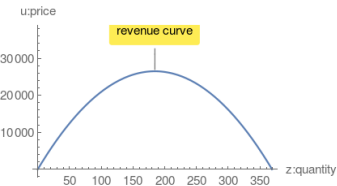


1.

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

$$\text{Revenue} = \text{Price} \times \text{Quantity} = \left(-\frac{7}{9}z + 287\right) \times z = 287z - \frac{7z^2}{9}$$

Notice the latter is a quadratic:



(b) Domain starts at 0 Yen revenue up to z-intercept coordinate equal to twice the value of vertex of the Parabola:
369

(d) The maximum occurs at the vertex z-intercept coordinate:

$\frac{369}{2}$
or the amount 26475.8 Yen .