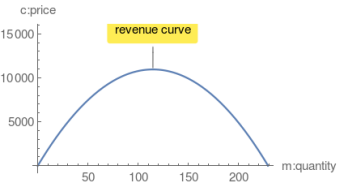# 1.

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

$$\text{Revenue} = \text{Price} \times \text{Quantity} = \left(-\frac{5}{6}m + 191\right) \times m = 191\,m - \frac{5\,m^2}{6}$$

Notice the latter is a quadratic:



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

$$\frac{1146}{5}$$

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

$$\frac{573}{5}$$

or the amount 10944.3 Yen .