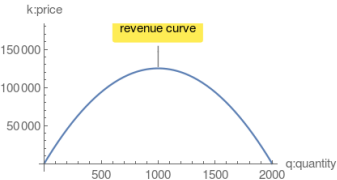


1.

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

$$\text{Revenue} = \text{Price} \times \text{Quantity} = \left(-\frac{1}{8}q + 250\right) \times q = 250q - \frac{q^2}{8}$$

Notice the latter is a quadratic:



(2) Domain starts at 0 Yen revenue up to q-intercept coordinate equal to twice the value of vertex of the Parabola:  
2000

(4) The maximum occurs at the vertex q-intercept coordinate:  
1000

or the amount 125 000. Yen .