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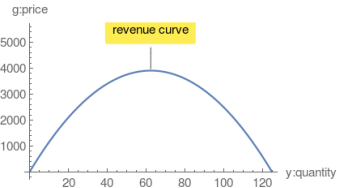
1. (a) Basis for the Revenue model is a simple multiplication:

Revenue = Price×Quantity = $(-1y+125) \times y = 125y - y^2$

Notice the latter is a quadratic:

(b) Domain starts at 0 Yen revenue up to y-intercept coordinate equal to twice the value of vertex of the Parabola: 125

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

$\frac{125}{2}$

or the amount 3906.25 Yen .