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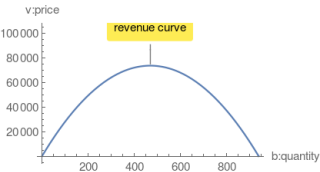
1. (A) Basis for the Revenue model is a simple multiplication:

Revenue = Price×Quantity = $\left(-\frac{1}{3}b+313\right) \times b = 313\,b - \frac{b^2}{3}$

Notice the latter is a quadratic:

(B) Domain starts at 0 USDollars revenue up to b-intercept coordinate equal to twice the value of vertex of the Parabola: 939

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

$\frac{939}{2}$

or the amount 73476.8 USDollars .