4.
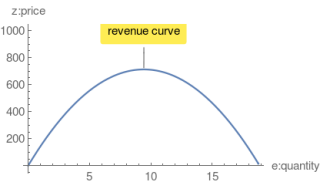
4. (a) Basis for the Revenue model is a simple multiplication:

Revenue = Price×Quantity = $(-8e+151) \times e = 151\,e - 8\,e^2$

Notice the latter is a quadratic:

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

$\frac{151}{8}$

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

$\frac{151}{16}$

or the amount 712.53 USDollars .