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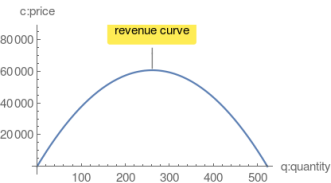
1. (A) Basis for the Revenue model is a simple multiplication:

Revenue = Price×Quantity = $\left(-\frac{8}{9}q+464\right)$ × q = $464\,q - \frac{8\,q^2}{9}$

Notice the latter is a quadratic:

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

522

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

261

or the amount 60552. Euros .