1.

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

Revenue = Price×Quantity = $(-\frac{7}{4}j+403) \times j = 403j - \frac{7j^2}{4}$

Notice the latter is a quadratic:
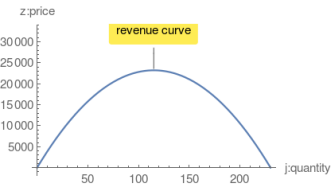
(b) Domain starts at 0 Euros revenue up to j-intercept coordinate equal to twice the value of vertex of the Parabola:

$\frac{1612}{7}$

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

$\frac{806}{7}$

or the amount 23201.3 Euros .