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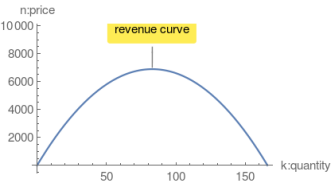
1. (a) Basis for the Revenue model is a simple multiplication:

Revenue = Price×Quantity = $(-1k+166) \times k = 166\,k - k^2$

Notice the latter is a quadratic:

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

166

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

83

or the amount 6889. Euros .