1.

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

Revenue = Price×Quantity = $(-\frac{1}{2}s+254) \times s = 254\,s - \frac{s^2}{2}$

Notice the latter is a quadratic:
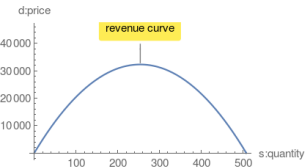
(b) Domain starts at 0 CanadianDollars revenue up to s-intercept coordinate equal to twice the value of vertex of the Parabola: 508

(d) The maximum occurs at the vertex s-intercept coordinate: 254

or the amount 32258. CanadianDollars .