3.
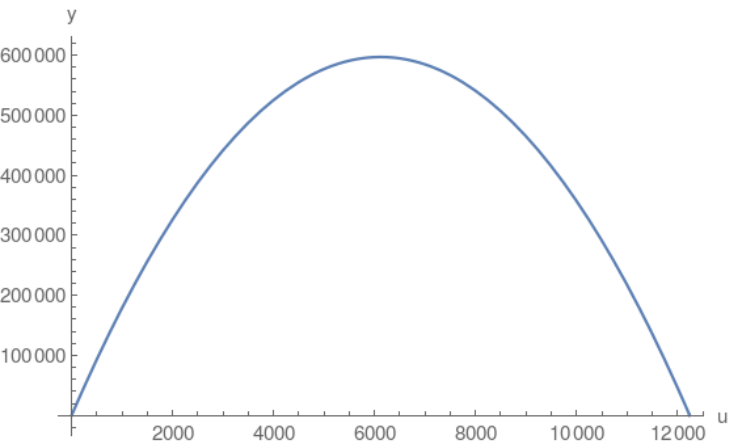
3. (1) To solve for the MIN/MAX, first calculate the vertex:

$$vertex = \frac{-195}{2\frac{(-23)}{38^2}} = \frac{140790}{23}$$

since the height y of the projectile is modeled by a Parabola equation.