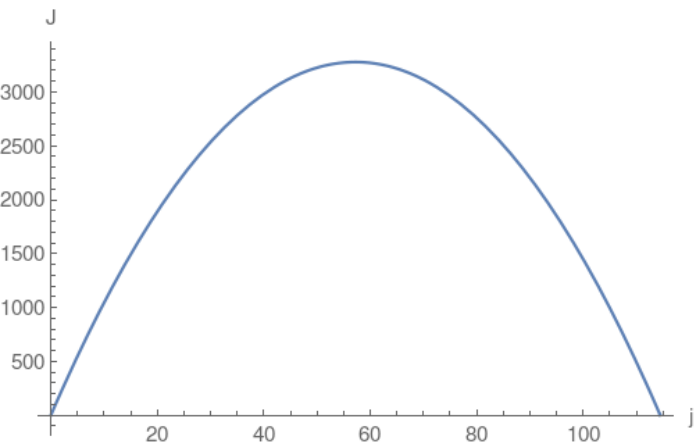# 3.

3. Perimeter of rectangle $= 2(j+a) = 229$ where a is the length of the other edge of rectangle. Area of the rectangle is $= j \times a$.
Use perimeter equation
and solve for a $= \frac{229-2j}{2}$

Then reformulate the area J $= j \times a = \frac{229j}{2} - j^2$ which turns out to be a quadratic Parabola:

Compute the vertex $\frac{229}{4}$ and then plug the vertex into the area which will compute the maximum area.