

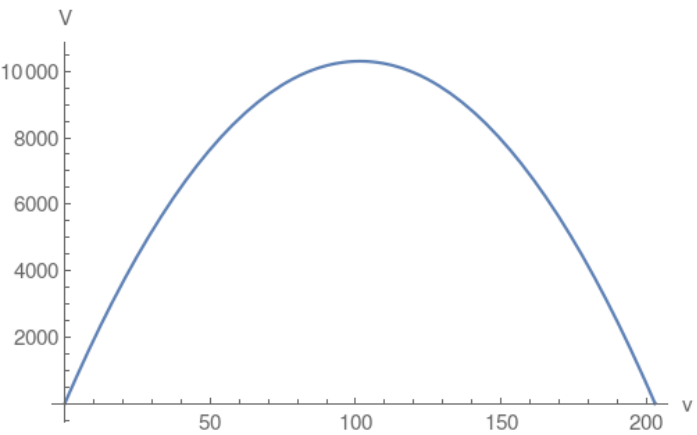
3.

3. Perimeter of rectangle = $2(v+a)=406$ where a is the length of the other edge of rectangle. Area of the rectangle is $= v \times a$.

Use perimeter equation

and solve for $a = \frac{406-2v}{2}$

Then reformulate the area $V = v \times a = 203v - v^2$ which turns out to be a quadratic Parabola:



Compute the vertex $\frac{406}{2}$ and then plug the vertex into the area which will compute the maximum area.