

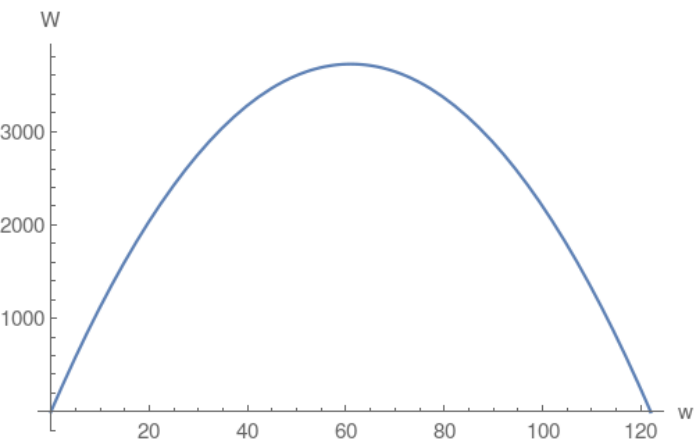
3.

3. Perimeter of rectangle =  $2(w+a)=244$  where  $a$  is the length of the other edge of rectangle. Area of the rectangle is  $= w \times a$ .

Use perimeter equation

and solve for  $a = \frac{244-2w}{2}$

Then reformulate the area  $W = w \times a = 122w - w^2$  which turns out to be a quadratic Parabola:



Compute the vertex  $\frac{244}{4}$  and then plug the vertex into the area which will compute the maximum area.