

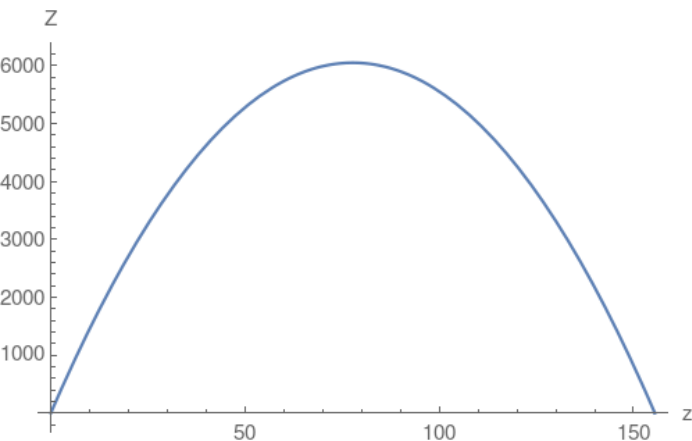
2.

2. Perimeter of rectangle = $2(z+a)=311$ where a is the length of the other edge of rectangle. Area of the rectangle is = $z \times a$.

Use perimeter equation

and solve for $a = \frac{311-2z}{2}$

Then reformulate the area $Z = z \times a = \frac{311z}{2} - z^2$ which turns out to be a quadratic Parabola:



Compute the vertex $\frac{311}{4}$ and then plug the vertex into the area which will compute the maximum area.