

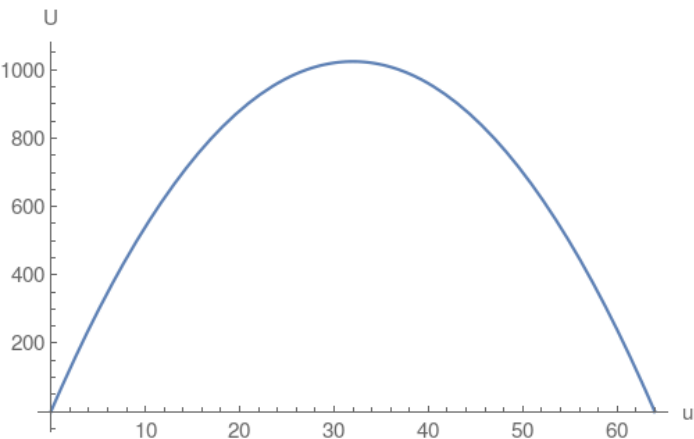
2.

2. Perimeter of rectangle = $2(u+a)=128$ where a is the length of the other edge of rectangle. Area of the rectangle is = $u \times a$.

Use perimeter equation

and solve for $a = \frac{128-2u}{2}$

Then reformulate the area $U = u \times a = 64u - u^2$ which turns out to be a quadratic Parabola:



Compute the vertex $\frac{128}{4}$ and then plug the vertex into the area which will compute the maximum area.