

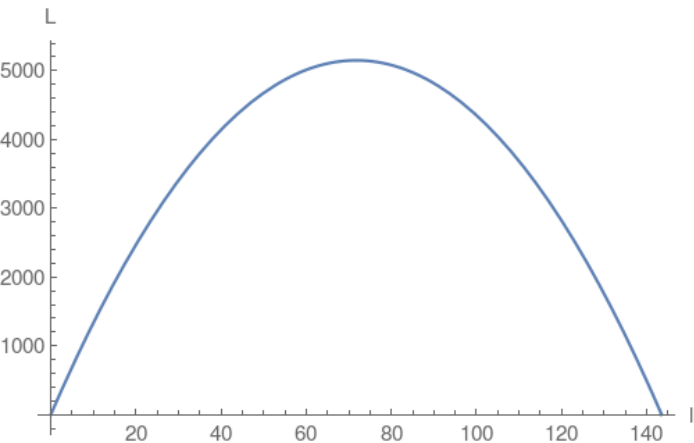
1.

1. Perimeter of rectangle =  $2(l+a)=287$  where  $a$  is the length of the other edge of rectangle. Area of the rectangle is  $= l \times a$ .

Use perimeter equation

and solve for  $a = \frac{287-2l}{2}$

Then reformulate the area  $L = l \times a = \frac{287l}{2} - l^2$  which turns out to be a quadratic Parabola:



Compute the vertex  $\frac{287}{4}$  and then plug the vertex into the area which will compute the maximum area.