

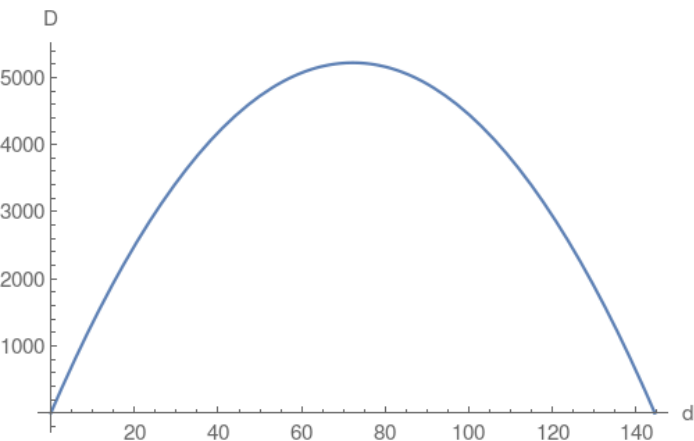
2.

2. Perimeter of rectangle =  $2(d+a)=289$  where  $a$  is the length of the other edge of rectangle. Area of the rectangle is  $= d \times a$ .

Use perimeter equation

and solve for  $a = \frac{289-2d}{2}$

Then reformulate the area  $D = d \times a = \frac{289d}{2} - d^2$  which turns out to be a quadratic Parabola:



Compute the vertex  $\frac{289}{4}$  and then plug the vertex into the area which will compute the maximum area.