

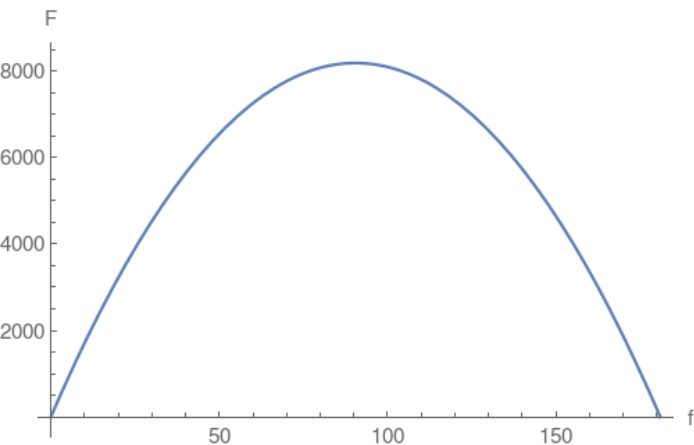
2.

2. Perimeter of rectangle = $2(f+a)=362$ where a is the length of the other edge of rectangle. Area of the rectangle is $= f \times a$.

Use perimeter equation

and solve for $a = \frac{362-2f}{2}$

Then reformulate the area $F = f \times a = 181f - f^2$ which turns out to be a quadratic Parabola:



Compute the vertex $\frac{362}{2}$ and then plug the vertex into the area which will compute the maximum area.