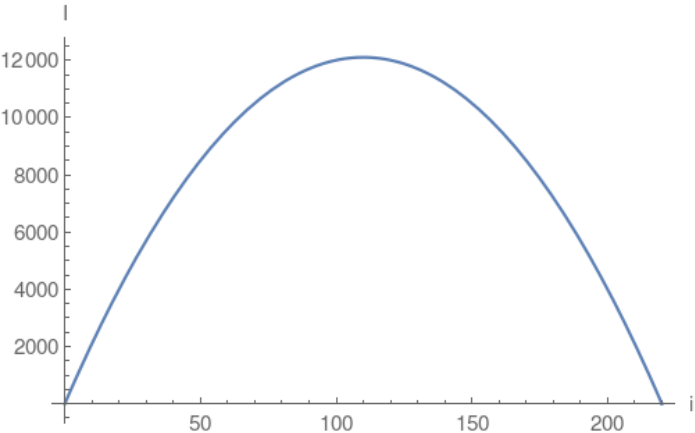
3.

3. Perimeter of rectangle = $2(i+a)=440$ where a is the length of the other edge of rectangle. Area of the rectangle is = $i \times a$.
Use perimeter equation
and solve for a= $\frac{440-2i}{2}$

Then reformulate the area I= $i \times a = 220\,i - i^2$ which turns out to be a quadratic Parabola:



Compute the vertex $\frac{440}{4}$ and then plug the vertex into the area which will compute the maximum area.