

4.

4. There are 3 sides to fence, two sides with length  $b$  and one side with length  $a$ :

$$a+b+b=2833 \Rightarrow a=2833-2b$$

Now solve for the area:

$$\text{area}=a \times b = (l-2b)b = 2833b - 2b^2$$

Notice the Parabolic function, solve for the vertex:

$$\text{vertex} = \left( \frac{2833}{4} \text{ m}, \frac{8025889}{8} \text{ m}^2 \right)$$

**Square** the unit for vertex's vertical coordinate since it is a quadratic.