

4.

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

$$a+b+b=4075 \Rightarrow a=4075-2b$$

Now compute the area:

$$\text{area}=a \times b = (4075-2b)b = 4075b - 2b^2$$

Notice the Parabolic function, compute the vertex:

$$\text{vertex} = \left(\frac{4075}{4} \text{ meters}, \frac{16605625}{8} \text{ meters}^2 \right)$$

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