

4.

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

$$a+b+b=1886 \Rightarrow a=1886-2b$$

Now solve for the area:

$$\text{area}=a \times b = (1886-2b)b = 1886b - 2b^2$$

Notice the Parabolic formula, solve for the vertex:

$$\text{vertex} = \left(\frac{943}{2} \text{ yd} , \frac{889249}{2} \text{ yd}^2 \right)$$

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