

4.

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

$$a+b+b=3373 \Rightarrow a=3373-2b$$

Now solve for the area:

$$\text{area}=a \times b = (l-2b)b = 3373b - 2b^2$$

Notice the Parabolic formula, solve for the vertex:

$$\text{vertex} = \left(\frac{3373}{4} \text{ feet}, \frac{11377129}{8} \text{ feet}^2 \right)$$

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