

4.

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

$$a+b+b=3044 \implies a=3044-2b$$

Now compute the area:

$$\text{area}=a \times b = (1-2b)b = 3044b - 2b^2$$

Notice the Parabolic formula, compute the vertex:

$$\text{vertex} = (761 \text{ feet}, 1158242 \text{ feet}^2)$$

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