

4.

4. Since the fences enclose a rectangular plot without one side, two sides have length  $b$  and one side has length  $a$ :

$$a + b + b = 2926 \implies a = 2926 - 2b$$

the area:

$$\text{area} = a \times b = (1 - 2b) b = 2926 b - 2 b^2$$

Note that the equation is for parabola. Now solve for the vertex:

$$\text{vertex} = \left( \frac{1463}{2} \text{ ft}, \frac{2140369}{2} \text{ ft}^2 \right)$$

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