

2.

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

$$a+b+b=4379 \implies a=4379-2b$$

the area:

$$\text{area}=a \times b = (4379-2b)b = 4379b - 2b^2$$

Note that the function is for parabola. Now find the vertex:

$$\text{vertex} = \left(\frac{4379}{2} \text{ feet}, \frac{19175641}{8} \text{ feet}^2 \right)$$

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