

2.

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

$$a+b+b=3891 \implies a=3891-2b$$

the area:

$$\text{area}=a \times b = (1-2b)b = 3891b - 2b^2$$

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

$$\text{vertex} = \left( \frac{3891}{4} \text{ feet}, \frac{15139881}{8} \text{ feet}^2 \right)$$

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