

4.

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

$$a + b + b = 4704 \implies a = 4704 - 2b$$

the area:

$$\text{area} = a \times b = (4704 - 2b)b = 4704b - 2b^2$$

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

$$\text{vertex} = (1176 \text{ feet}, 2765952 \text{ feet}^2)$$

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