

4.

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

$$a+b+b=2244 \implies a=2244-2b$$

the area:

$$\text{area}=a \times b = (1-2b) b = 2244 b - 2 b^2$$

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

$$\text{vertex} = (561 \text{ yards} , 629442 \text{ yards}^2)$$

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