

4.

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

$$a+b+b=4925 \implies a=4925-2b$$

the area:

$$\text{area}=a \times b = (4925-2b)b = 4925b - 2b^2$$

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

$$\text{vertex} = \left(\frac{4925}{2} \text{ m}, \frac{24255625}{8} \text{ m}^2 \right)$$

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