

4.

4. There are 3 sides to fence, two sides with length  $b$  and one side with length  $a$ :

$$a+b+b=4952 \implies a=4952-2b$$

Now solve for the area:

$$\text{area}=a \times b = (1-2b) b = 4952 b - 2 b^2$$

Notice the Parabolic function, solve for the vertex:

$$\text{vertex} = (1238 \text{ meters}, 3065288 \text{ meters}^2)$$

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