

4.

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

$$a+b+b=4824 \implies a=4824-2b$$

Now solve for the area:

$$\text{area}=a \times b = (4824-2b)b = 4824b - 2b^2$$

Notice the Parabolic equation, solve for the vertex:

$$\text{vertex} = (1206 \text{ yards}, 2908872 \text{ yards}^2)$$

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