3.

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

$a + b + b = 1551 \implies a = 1551 - 2b$

the area:

$area = a \times b = (l - 2b) \, b = 1551 \, b - 2 \, b^2$

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

$vertex = (\frac{1551}{4} \text{ m} , \frac{2\,405\,601}{8} \text{ m}^2)$

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