3.

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

$a + b + b = 4791 \implies a = 4791 - 2b$

the area:

$area = a \times b = (l - 2b) b = 4791\,b - 2\,b^2$

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

$vertex = (\frac{4791}{4}\ ft\ ,\ \frac{22\,953\,681}{8}\ ft^2\ )$

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