4.

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

$a + b + b = 1552 \implies a = 1552 - 2b$

Now solve for the area:

$area = a \times b = (l - 2b)b = 1552\,b - 2\,b^2$

Notice the Parabolic equation, solve for the vertex:

$vertex = (388\ ft,\ 301088\ ft^2)$

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