3.

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

$a + b + b = 3995 \implies a = 3995 - 2b$

Now compute the area:

$area = a \times b = (l - 2b)b = 3995\,b - 2\,b^2$

Notice the Parabolic equation, compute the vertex:

$vertex = (\frac{3995}{4} \text{ yards} , \frac{15\,960\,025}{8} \text{ yards}^2)$

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