4.

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

$a + b + b = 1425 \implies a = 1425 - 2b$

Now compute the area:

$\text{area} = a \times b = (l - 2b)b = 1425\, b - 2\, b^2$

Notice the Parabolic equation, compute the vertex:

$\text{vertex} = (\frac{1425}{4}\ m\ ,\ \frac{2\,030\,625}{8}\ m^2\ )$

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