Curved arc length L for a curve given by the equation y = y(x)

(dL)2 = (dx)2 + (dy)2

dL = = dx= dx

L = =

Parabolic arc length for y = x2, y' = 2x

 + C

For y=ex2, y' = 2ex, constant e > 0

 + C

To find the exact number, you must use the corresponding limits of the integration.

Find the equation for the length of any parabolic arc y = ax2 + bx + c.

Use this equation to find the parabolic path length of the soccer ball.

Use your knowledge of stretches, translations and rotations.