1. (1 point) Find the Cartesian equation of the curve and sketch it: \( x = \cos(\theta) \), \( y = 1 + \sin(\theta) \), \( 0 \leq \theta < 2\pi \).

2. (1 point) Find the length of the curve defined by: \( x = \frac{t^2}{2} \), \( y = \frac{(2t+1)^{3/2}}{3} \), \( 0 \leq t \leq 4 \).

3. (1 point) Find \( \frac{dy}{dx} \) and \( \frac{d^2 y}{dx^2} \): \( x = e^t \), \( y = t e^{-t} \).