1 Questions:

2 Problems:

1. Find the length of the curve defined by $x(t) = e^t + e^{-t}$ and $y(t) = 5 - 2t$ on the interval $0 \leq t \leq 3$.

2. Find the length of the curve defined by $x(t) = \dfrac{t}{1+t}$ and $y(t) = \ln(1+t)$ for $0 \leq t \leq 2$.

3. Find the surface area of a sphere or radius R.

4. Convert the equation $r = \sin(\theta)$ to rectangular coordinates.

5. Convert the equation $r = \dfrac{1}{2 - \cos(\theta)}$ to rectangular coordinates.

6. Convert the equation $x = 5$ to polar coordinates.

7. Sketch the curve $r = \cos(2\theta)$.