LAST NAME: FIRST NAME:

MATH 65B - Spring 2018

Groupwork 7: March 22, 2018

1. Eliminate the parameter for the following parameterized curve. Sketch the curve and use arrows to denote the direction.

$$x = \sin(t), \quad y = \csc(t), \quad 0 < t < \frac{\pi}{2}$$

Please, show all work.

2. Eliminate the parameter for the following parameterized curve. Sketch the curve and use arrows to denote the direction.

$$x = e^{2t}, \quad y = t + 1, \quad \text{for } -\infty < t < \infty$$

Please, show all work.

3. Find $\frac{dy}{dx}$ and $\frac{d^2y}{dx^2}$. For what values of t is the curve concave up?

$$x = 2\sin(t), \quad y = 3\cos(t), \quad 0 < t < 2\pi$$

Please, show all work.

4. Find $\frac{dy}{dx}$ and $\frac{d^2y}{dx^2}$. For what values of t is the curve concave up?

$$x = t - e^t, \quad y = t + e^{-t}$$

Please, show all work.