

NAME: \_\_\_\_\_

**Problem 1:** Consider the parametrized curve  $x(t) = e^{2t} - 1$ ,  $y(t) = e^{6t}$ . Eliminate the parameter to produce a Cartesian equation of the curve, and sketch the curve with an arrow indicating the direction in which the curve is traced as the parameter increases.

**Problem 2:** Match the following graphs of  $x(t)$  and  $y(t)$  as Cartesian functions to their parametrized curves.

**Problem 3:** Find the equation of the tangent line to the curve  $x(t) = t - \frac{1}{t}$ ,  $y(t) = 1 + t^2$  when  $t = 2$ .