

Take Home Quiz. This counts as three quizzes. Show all steps for credit.

1. Given the parametric equations $x = \cos(e^t)$, $y = \sin(e^t)$,
 - a.) Find the Cartesian equation.
 - b.) Sketch the graph.
 - c.) Find the arc length between $0 \leq t \leq 1$. (Set up the integral and integrate it symbolically.)
2. Find the area enclosed by $r = \sin 5\theta$. (Set up the integral and integrate it symbolically.)
3. Given $y^2 - 5x^2 - 10y - 40x - 80 = 0$. Find each of the following.
 - a.) Center
 - b.) Vertices
 - c.) Foci
 - d.) Asymptotes