Math 109 HW6 Part 2

Fall 2018

3. Compute the area under the parametric curve $x = e^t$, $y = t^2$ for $t \in [0, 1]$.

4. Compute the arc length of the curve $x = 2\sin t + 3$, $y = 2\cos t + 4$ for $t \in [0, \frac{\pi}{3}]$.

5. Find a polar equation for the curve represented by the Cartesian equation $y^2 = x$.

6. Find a Cartesian equation for the curve represented by the polar equation $r^2 = 3\theta$.

6. Sketch the polar curve $r^2 \sin 2\theta = 1$.

7. $r = 3\theta$ is a polar curve. Compute the area of the polar region for $\theta \in [0, \pi]$.