

Math 31 Summer 2019

Quiz $\frac{1}{\phi}$

July 25, 2019

1) Graph the following curve, determine the area within the loop, and determine the arc length of the loop.

$$\begin{aligned}x(t) &= 3t^2 - 12 \\y(t) &= t^3 - 3t\end{aligned}$$

2) Graph the following pair of curves, **set up, but do not evaluate**, an integral to determine the area of the region inside the first curve and outside of the second curve as well as an integral to determine the arc length of one petal of the first curve.

$$\begin{aligned}r &= 3 \sin(2\theta) \\r &= 2\end{aligned}$$