HOMEWORK 4

MATH 243

10.3.50

First, determine at what values of θ you have $r \to \pm\infty$. Then, find y in terms of θ. Use these facts to show that $y \to -1$ as $r \to \pm\infty$.

For making a plot, the usual recommendation is to first plot r in terms of θ, but for this one you need to know y in terms of θ as well in order to get an accurate digram. Also, to help you plot, determine at what values of θ you have $r = 0$.

Your explanation should demonstrate your ability to plot this curve without using a calculator or a computer.

10.3.52

Start by converting the equation into polar coordinates and then simplifying. If you use a double angle identity, you can simplify further, which will make it easier to plot than it would be otherwise.

Your explanation should demonstrate your ability to plot this curve without using a calculator or a computer.