

NAME :

1. Consider the equation $\cos(x) - \sin(x) = 0$.

Use interval arithmetic to show this equation has a solution in $[0.7, 0.8]$.

Write all relevant Sage commands.

2. Consider the algebraic curve defined by $x^4 - 2y^3 + x^2y = 0$.

(a) Give the Sage command(s) to plot this curve for x and y both in $[-1, +1]$.

(b) Transform the curve to polar coordinates and make the plot.

Write the polar representation of the curve.

For the plot, select the ranges to avoid division by zero.

Homework Assignment:

Bring to class on Monday the print out of a Sage notebook with your answers to assignment 2 of lecture 23; assignments 3 and 5 of lecture 24; and assignments 1 and 3 of lecture 25.