
%Homework 3/15 Problem 2 parts c and d: Polar graphs

%I will create both a basic cardioid graph and a graph of a 6-pointed star

%First, the cardioid graph

theta= 0:0.01:2*pi; %I first define my range for theta

rcard= 1-sin(theta); %Then I enter my equation for the cardioid graph

%I obtained the equation from mathworld.wolfram.com/heartcurve

%Now I use the polar command to graph the equation, formatting it as a solid red line.

polar(theta, rcard, '-r')

hold on %I want to keep this graph as I move onto the next part

%Now I move to the six-pointed star

%I define a new range for my thetas for this equation

tstar=[pi/6:2*pi/3:4*pi];

rstar= ones(1,6); %Now I define my rho values

%Now I use a polar graph. This creates one triangle. I format it as a solid

blue line

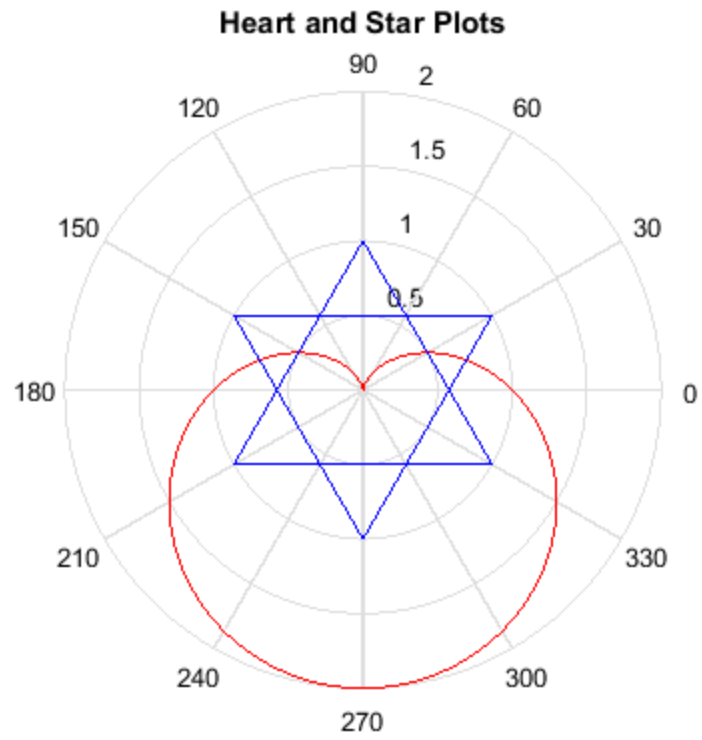
polar(tstar,rstar, 'b')

%I use the polar function again, but this time I use negative tstar in order to invert the triangle, thus creating two overlapping triangles that

%create a 6-pointed star

polar(-tstar,rstar,'b')

title('Heart and Star Plots')



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