# Part 1- Polar

Name: _____

1. Create a picture/design using a minimum of 3 polar equations on www.desmos.com . Create an account so that you can save your progress.
2. You can restrict how much of your graph is shown by using brackets. For example, r = 3cosθ {0 < θ < pi/2} would graph half of a circle. You also can shade by making the original equations inequalities. Ex. r < 5 would shade inside the circle
3. Share your online graph on google classroom.
4. Draw your results on the polar graph paper provided (additional copies are online). Your drawing should be neat and colored. UNLESS you completely shaded your online version.

Rubric:

Online graph is submitted on time and includes at least 3 polar equations................................ 25 points
Equations are graphed correctly on paper...10 points
Graph is neat and colored..10 points
Creativity.. 5 points
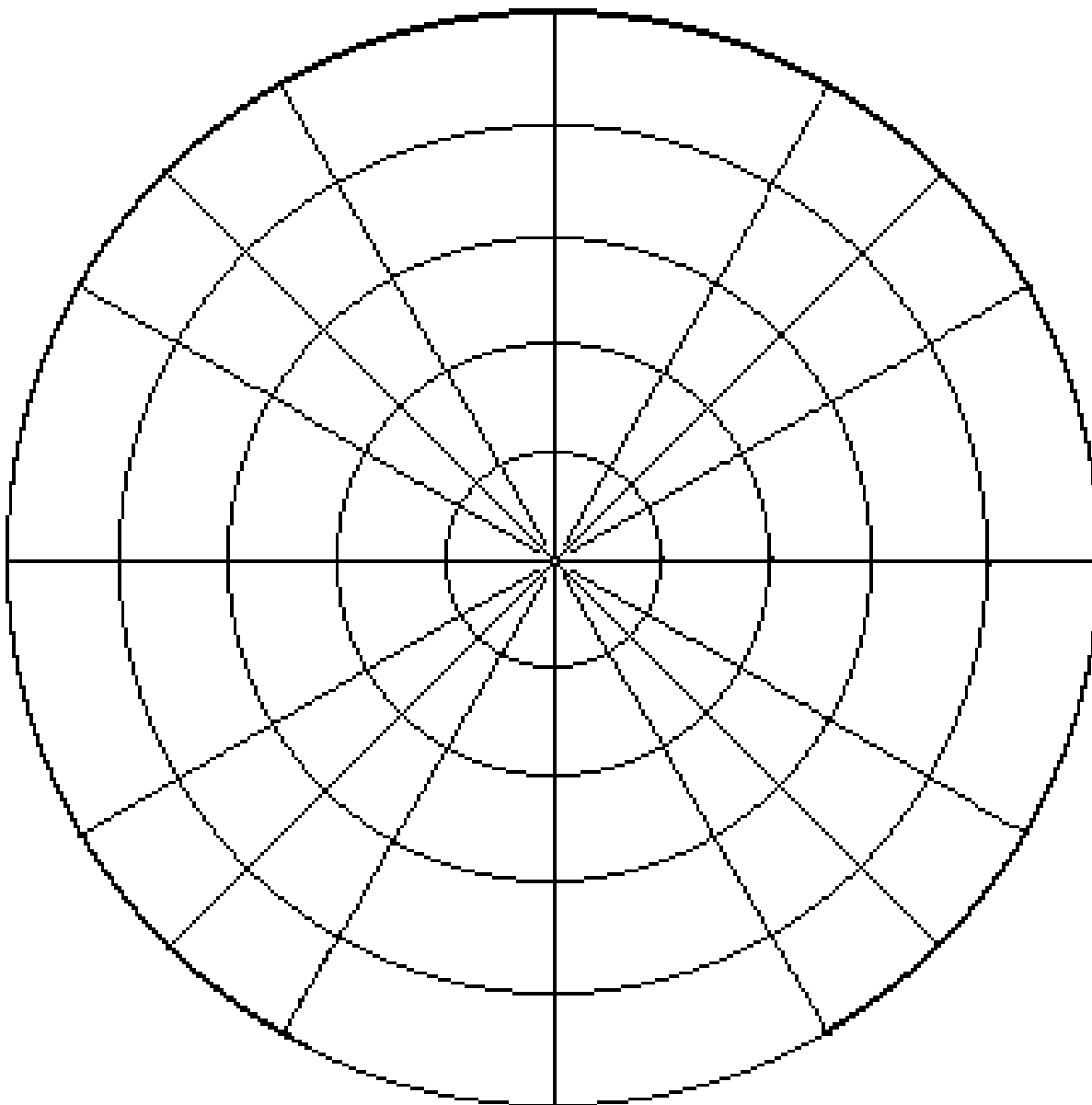
Part 2- Parametric

For this part of the project, you are going to graph your initials on your calculator in parametric mode. Start with the following window:

$$\begin{array}{lll} \text{Tmin} = 0 & \text{Xmin} = -9.4 & \text{Ymin} = -6.2 \\ \text{Tmax} = 1 & \text{Xmax} = 9.4 & \text{Ymax} = 6.2 \\ \text{Tstep} = .1 & \text{Xscl} = 1 & \text{Yscl} = 1 \end{array}$$

On your calculator, you need to come up with the parametric equations needed to make your initials with straight lines and curves (an example is below). Curves should be done with parts of an ellipse (your mode can be in degrees or radians, your choice). All equations must use the window settings above.

J R
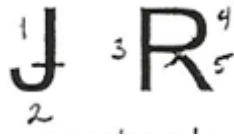
If one of your initials is the letter C, O, or I, you must include your middle initial since those letters only require one equation. If your first and last initial are the same, you must use your middle initial instead of one of them. Your letters should all be the same size and should look like the letters below. It's a good idea to write your equations down as you go to save your progress. To receive your grade, you will actually show me your calculator with the axes off. If your initials require more than 6 equations, you will need to show me the first 6 equations, and then you can delete some equations to make more space.

ABCDEF
GHIJKL
MNOPQR
STUVWX
YZ?.(!)

Equations: