**PreCalculus Conics Flower Project**

You will be creating your own Flowers incorporating at least one of each conic sections. Your flowers must be of the assigned dimensions. The petals must be equally spaced around a base with a minimum of three layers. You will create test flowers first for approval and then create final Flowers out of the paper provided by me. You may work in groups of two as well.

* Your flowers must be organized neatly on paper and it must include the following:
	+ Axes and origin labels must be visible.
	+ All pages must be to the same scale and will be measured for accuracy.
	+ Using Desmos or another graphing program, maximize the number of petals that can fit on one page and still meet the required final dimensions. All petals should fit on a maximum of three pages for the big flower and a maximum of two pages for the small one.
	+ You will need a circle to cover the assembly in the center. Note: Do not attach the cover circle until we need it for final assembly (paper clip to your flower).
	+ You will also need a cardboard circle as a base for the flower (sturdy material to glue all the petals unto).
* All equations must be in standard form on a separate page neat, labeled, and organized.
* For each conic section you must include the following parts of the graph:
	+ **Circle**: equation, radius, center
	+ **Ellipse**: equation, center, vertices, co-vertices
	+ **Hyperbola**: equation, center, vertices, *slopes* of asymptotes
	+ **Parabola**: equation, vertex, focus, directrix
* You will need to print out your petals on printer paper for cutting purposes.
* Once your test flowers are approved, you may cut out one petal of each size and use it as a template for creating the final flowers.
* You must submit an electronic document that contains your five pages of petals and your equations/characteristics. I suggest using the Snipping Tool to “copy/paste” your work from Desmos into a Word document. Do the same for the equations.
* Don’t forget to put your name on the back of the flowers for grading purposes!
* Quality of flower assembly and neatness is a high priority. This will/may be presented at the Steam Symposium.