Beauty of Conics Project

Your assignment is to create a drawing (or painting, or any other 2D work of art) using graphs of conic sections.

What you'll turn in:

- **One page** with an illustration on it that includes 10 conic sections. This "page" can be as large as you like but there should be only one set of x and y axes going through the middle of the page.

- One page with the equations of the conic sections included in your illustration.

Details of the assignment:

You may work with a partner if you choose. The graphs in your picture can be printed from `desmos.com` or another graphing website or software, or can be hand-drawn **neatly** and **accurately**. The x and y axes and can be drawn or printed lightly in gray so as not to interfere with your picture.

You may include other drawings in your illustration that are not graphs of conic sections, but 10 graphs of conic sections must be included, as follows: 1 circle, 1 vertical ellipse, 1 horizontal ellipse, 1 vertical hyperbola, 1 horizontal hyperbola, 1 vertical parabola, 1 horizontal parabola, and 3 additional conic graphs of your choosing. If you need a reminder on how to create any of these graphs, see Chapter 10 in your textbook.

Each conic graph in your illustration should be numbered. On a separate sheet of paper, you will give the equations for each graph. For the hyperbolas and parabolas in your graph, please include the restricted x and/or y values of the graph that you actually include in your illustration. For example, to include a tree in my picture I could make the following graphs.
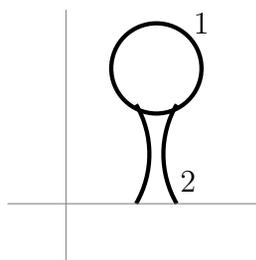
Then on my attached page I would include these equations and restriction.

1. $(x-2)^2 + (y-3)^2 = 1$

2. $\dfrac{(x-2)^2}{0.1} - \dfrac{(y-1)^2}{1} = 1$ for $1.5 \le x \le 2.5$

Grading: This project will be graded on **accuracy**, **effort** and **creativity**. Your completed assignment is due on **Tuesday, Nov. 26** at the beginning of class, but may be turned in earlier. Late assignments will not be accepted for full credit.