

Unit 5 Group Work
PCHA 2022-23 / Dr. Kessner

No calculator! Have fun!

For each of the following equations:

- 1) Put the equation into standard form and determine the type of conic section.
- 2) Sketch the graph of the equation.
- 3) Find the foci (or focus and directrix for parabolas) and the eccentricity. For hyperbolas, find the equations of the asymptotes.

1. $4x^2 - 16x + 9y^2 + 18y - 11 = 0$

2. $-9x^2 + 18x + 16y^2 - 153 = 0$

3. $x + y^2 + 4y + 2 = 0$