

Advanced Algebra
Conics Review: Homework

Identify each conic as a circle, ellipse, hyperbola or parabola from its equation:

- 1) $x^2 + y^2 - 6x + 4y + 9 = 0$
- 2) $x^2 + 4y^2 - 6x + 16y + 21 = 0$
- 3) $4x^2 - y^2 - 4x - 3 = 0$
- 4) $y^2 - 4y - 4x = 0$
- 5) $4x^2 + 3y^2 + 8x - 24y + 51 = 0$
- 6) $4y^2 - 2x^2 - 4y - 8x - 15 = 0$
- 7) $25x^2 - 10x - 200y - 119 = 0$
- 8) $4x^2 + 4y^2 - 16y + 15 = 0$

Identify the type of conic, put it in Standard Form, and sketch the graph. Label the appropriate information for each type of conic:

- 9) $4x^2 + y^2 - 16x + 15 = 0$
- 10) $x^2 - 6x + 2y + 9 = 0$
- 11) $4x^2 - 4y^2 - 4x + 8y - 11 = 0$
- 12) $x^2 + y^2 - 6x + 4y + 9 = 0$
- 13) $y^2 - 4y - 4x = 0$
- 14) $x^2 - 25y^2 + 25 = 0$

15) Write the General Form of the equation for an ellipse with vertices at (2, 0) and (2, 4) and foci at (2, 1) and (2, 3).

16) Write the General Form of the equation for a parabola with vertex at (0, 0) and focus at (1, 0).

17) Write the General Form of the equation for a circle with center at (2, 3) that passes through the point (1, -1).