

Advanced Algebra
Conics: Parabolas – Homework

Each of the equations below is a parabola. For each equation, determine whether the parabola is vertically or horizontally oriented, then put the equation into the appropriate standard form and graph the parabola. Label the vertex, focus, directrix and axis of symmetry of each parabola.

1) $x^2 - 10x - y + 21 = 0$

2) $y^2 - x + 2y - 2 = 0$

3) $x^2 + 2x - 2y - 3 = 0$

4) $2x^2 - 12x - y + 19 = 0$

5) $2y^2 + x + 16y + 33 = 0$

6) $y^2 - x - 3 = 0$

7) $3y^2 + x + 36y + 108 = 0$

8) $2x^2 + 3y = 0$