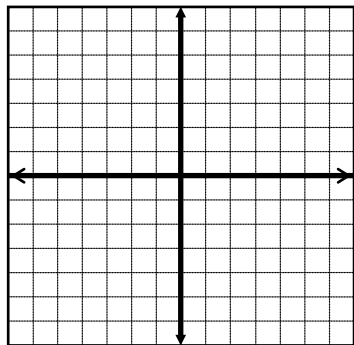


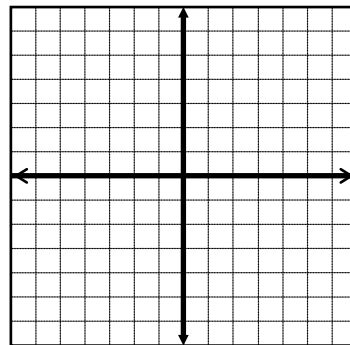
### Unit 5 In-Class Review

Write the conic in standard form and graph. Identify the important characteristics.

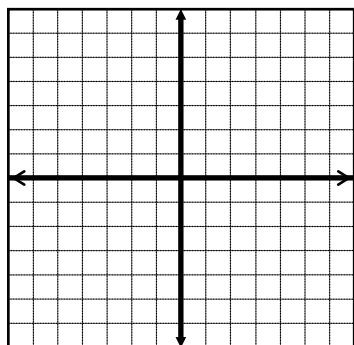
1.  $4x^2 + 25y^2 + 24x - 300y + 836 = 0$



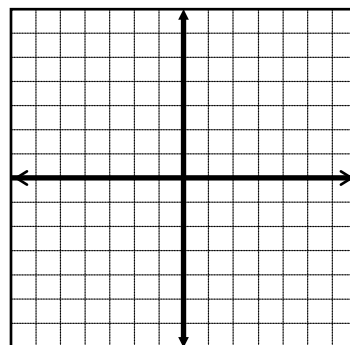
2.  $6x^2 - 24x + 24y + 96 = 0$



3.  $7x^2 + 7y^2 - 14x - 28y - 175 = 0$

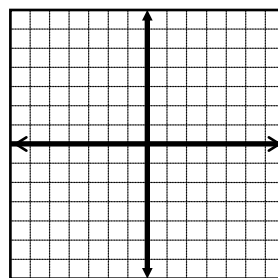


4.  $x^2 - 4y^2 - 6x - 16y - 11 = 0$

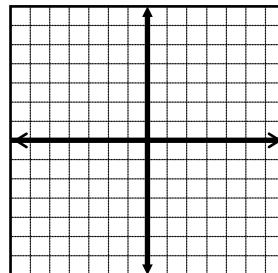


Write equations in standard form for the following conic sections.

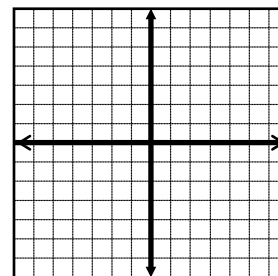
5. an ellipse with foci of (5,-2) and (-1,-2) and minor axis length of 8.



6. a hyperbola with focus of (1,-1) and asymptote of  $y + 4 = \frac{\sqrt{5}}{2}(x - 1)$ .

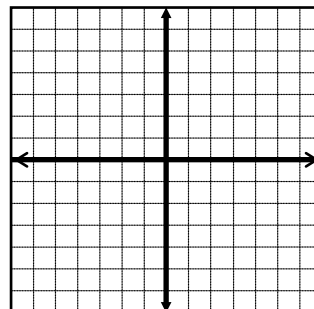


7. a parabola with focus of (-3,-2) and directrix of  $x = 2$ .

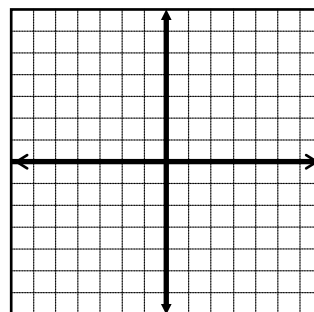


Eliminate the parameter (t) and find a rectangular equation for the plane curve. Then, graph the plane curve and use arrows to show the orientation of the plane curve.

8.  $y = \frac{1}{2}t + 1, \quad x = t^2 - 1; \quad -2 \leq t \leq 2$



9.  $x = 3 + 2\sin t, \quad y = 1 + 3\cos t; \quad 0 \leq t < 2\pi$



Use Gaussian Elimination to solve.

$$3x + 5y - 8z = -3$$

10.  $2x + 5y - 2z = -7$

$$-x - y + 4z = -1$$

$$x - y + z = 0$$

11.  $-x + 2y - 3z = -5$

$$2x - 3y + 5z = 8$$

Solve using Cramer's Rule.

$$-2x + 4y - z = -3$$

12.  $3x + y + 2z = 6$

$$x - 3y = 1$$

Solve using any method.

13.  $2x^2 - y^2 = -8$   
 $x - y = 6$

14.  $2x^2 + y^2 = 24$   
 $x^2 + y^2 = 15$