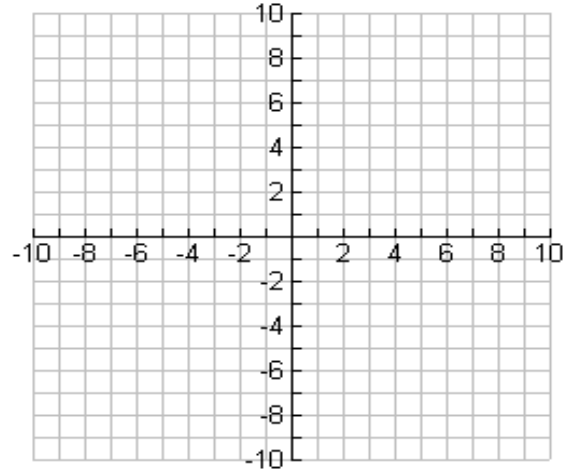**8.13b Ellipses and Hyperbolas Review WS #2**   **Date** _____

1. Write the equation of the ellipse in standard form. Graph the ellipse and identify requested parts.
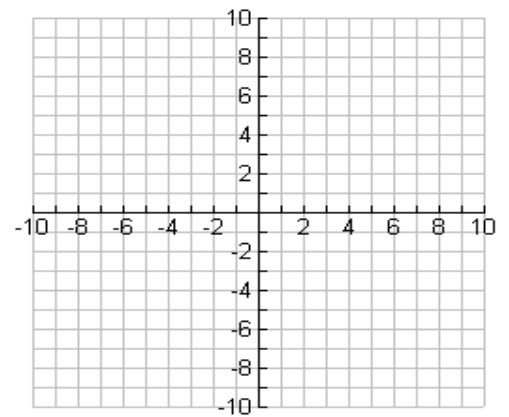
$3x^2 + y^2 - 48x - 4y + 184 = 0$

Standard Form: _____

  Center: _____   Vertices:_____

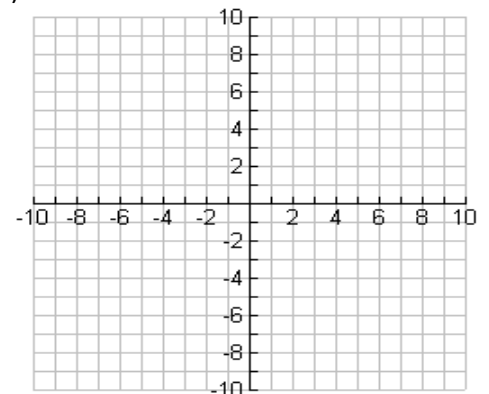 Foci: _____   Co-Vertices:_____

  Eccentricity = _____

2. Write the equation of an ellipse with center (-2, -1), a horizontal major axis of length 10 and a minor axis of length 5.

Equation: _____

3. Write an equation of the ellipse with a vertex at (0,7) and a co-vertex at (-3, 0)

Equation: _____

4. Identify the characteristics of the hyperbola. Then, graph the hyperbola and label all parts.

$$\frac{(y+1)^2}{25} - \frac{(x-3)^2}{36} = 1$$

a = _____ b = _____ c = _____

Center: _____
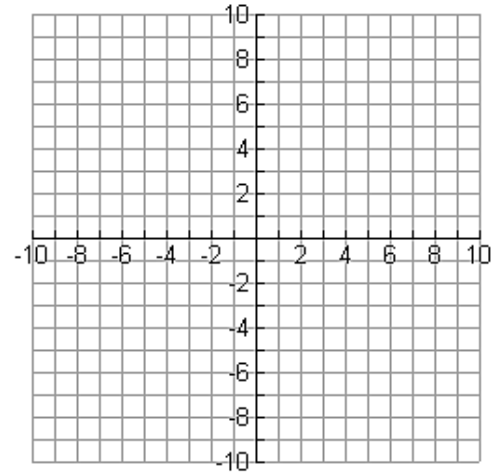
Vertices: _____

Foci: _____

Asymptotes: _____

Eccentricity: _____

5. Write the equation of the hyperbola in standard form. Identify the center, vertices, foci, asymptotes, and eccentricity. Graph the hyperbola and label all parts. $3x^2 - 4y^2 - 30x - 8y + 59 = 0$

Standard Form: _____

a = _____ b = _____ c = _____

Center: _____

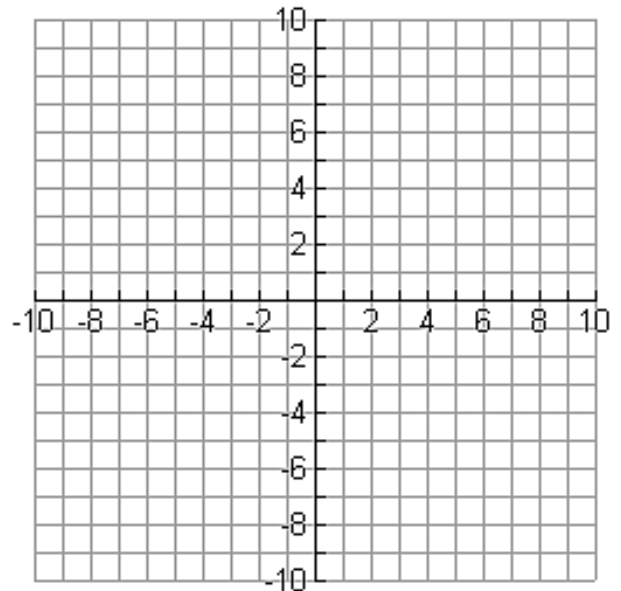Vertices: _____

Foci: _____

Asymptotes: _____

Eccentricity: _____

6. Write an equation of a hyperbola with center at (2, -3), a focus at (8, -3) and one vertex at (6,-3).

a = _____   b = _____   c = _____

Standard Form: _____

Center: _____
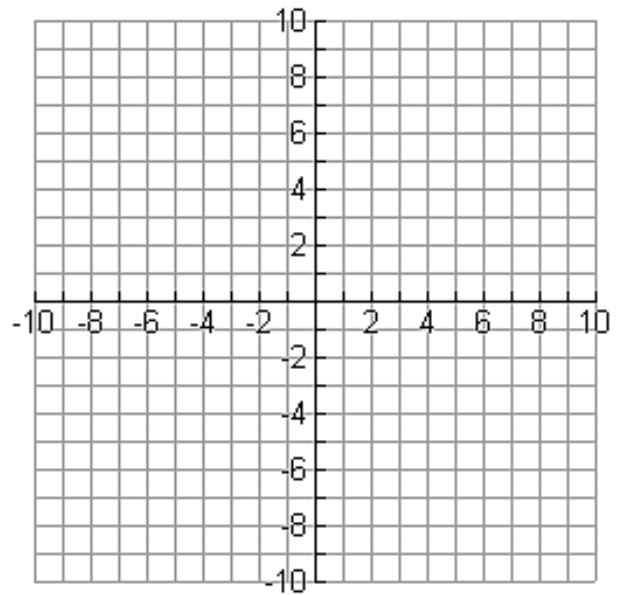
Vertices: _____

Foci: _____

Asymptotes: _____

Eccentricity: _____

7. Match the general form equation to the type of conic section it represents.

A) $127 - 3x^2 + 3y^2 - 24x + 10y = 0$

B) $4 - x^2 - 16x - 14y = 0$

C) $253 - 2x^2 = 2y^2 + 15x$

D) $1 - 5y^2 - 3x^2 + 12x = 16y$

Parabola: _____

Circle: _____

Ellipse: _____

Hyperbola: _____