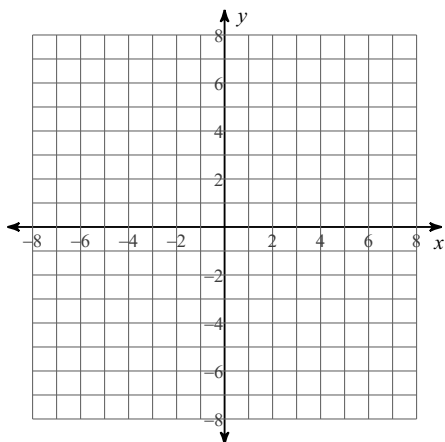


Review for Ch. 9A Test

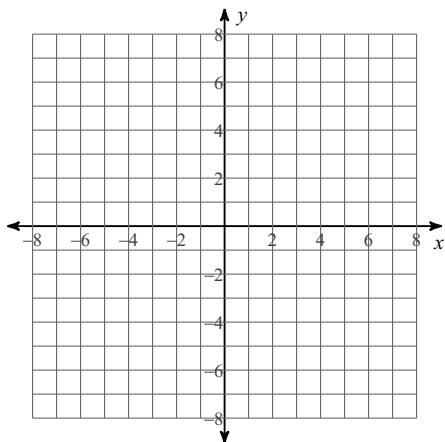
Identify the center, vertices, co-vertices, foci, and eccentricity of each. Then sketch the graph.

1) $49x^2 + 4y^2 - 98x - 147 = 0$



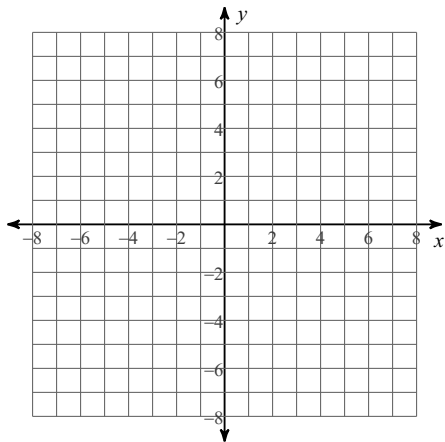
Identify the vertex, focus, axis of symmetry, and directrix of each. Then sketch the graph.

2) $x = \frac{1}{4}y^2 - 2y + 2$



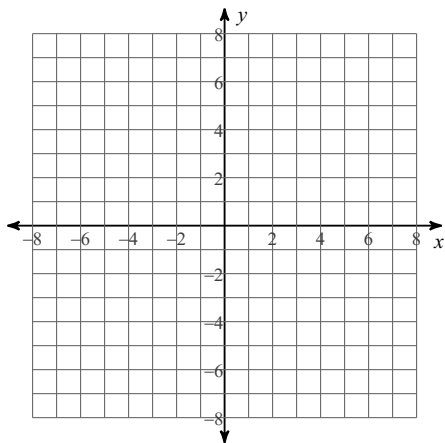
Identify the center and radius of each. Then sketch the graph.

3) $x^2 + y^2 + 4x - 4y = 0$



Identify the Center, vertices, co-vertices, foci, asymptotes, and eccentricity of each. Then sketch the graph.

4) $-9x^2 + y^2 + 18x - 4y - 14 = 0$



Use the information provided to write the standard form equation of each ellipse.

5) Foci: $\left(\frac{3}{2}, \frac{6\sqrt{5}+9}{2}\right), \left(\frac{3}{2}, \frac{-6\sqrt{5}+9}{2}\right)$
Endpoints of minor axis: $\left(\frac{7}{2}, \frac{9}{2}\right), \left(-\frac{1}{2}, \frac{9}{2}\right)$

6) Vertices: $(16, -1), (-10, -1)$
Co-vertices: $(3, 8), (3, -10)$

Use the information provided to write the standard form equation of each hyperbola.

7) Foci: $(6, 5), (6, -21)$
Asymptotes: $y = \frac{5}{12}x - \frac{21}{2}$
 $y = -\frac{5}{12}x - \frac{11}{2}$

8) Vertices: $(-6 + \sqrt{55}, 3), (-6 - \sqrt{55}, 3)$
Perimeter of Central Rectangle = $4\sqrt{55} + 12\sqrt{15}$

Use the information provided to write the vertex form equation of each parabola.

9) Vertex: $(1, 2)$, Focus: $\left(1, \frac{9}{4}\right)$

10) Vertex: $(-6, 4)$, Directrix: $x = -\frac{25}{4}$

Use the information provided to write the standard form equation of each circle.

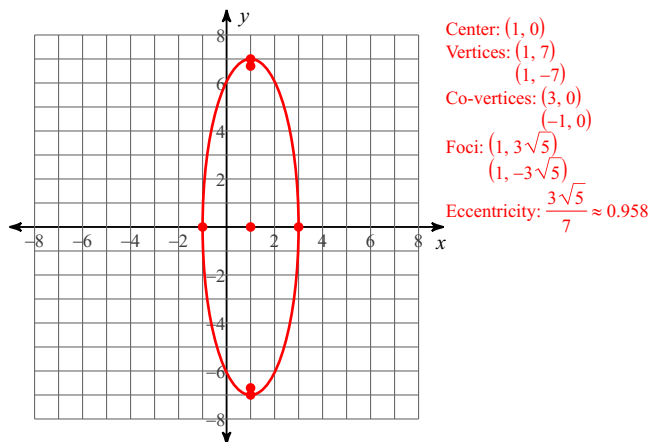
11) Center: $(-11, -7)$
Point on Circle: $(-19, -7)$

12) $(x + 8)^2 + (y + 2)^2 = 31$
Translated 1 left, 5 down

Review for Ch. 9A Test

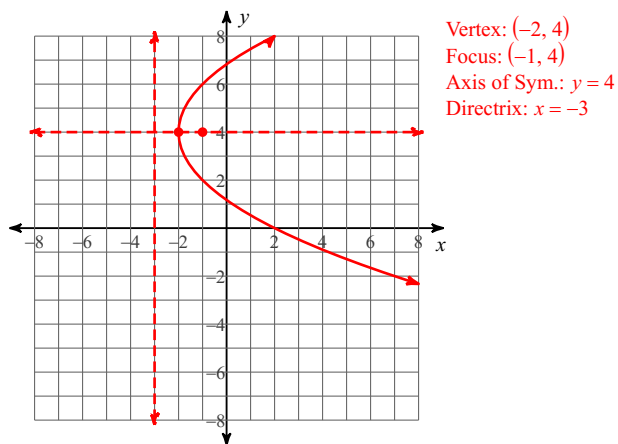
Identify the center, vertices, co-vertices, foci, and eccentricity of each. Then sketch the graph.

1) $49x^2 + 4y^2 - 98x - 147 = 0$



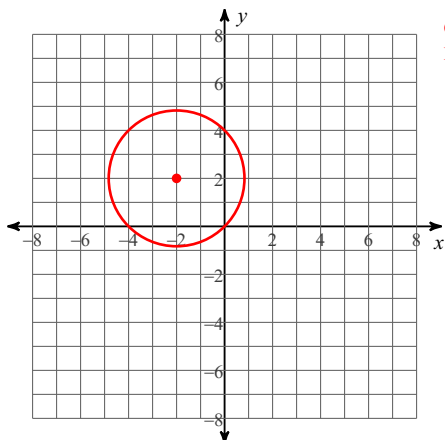
Identify the vertex, focus, axis of symmetry, and directrix of each. Then sketch the graph.

2) $x = \frac{1}{4}y^2 - 2y + 2$



Identify the center and radius of each. Then sketch the graph.

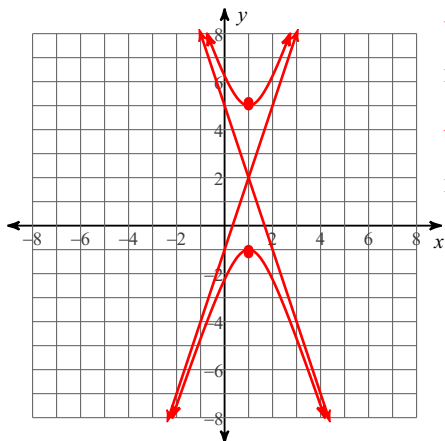
3) $x^2 + y^2 + 4x - 4y = 0$



Center: $(-2, 2)$
 Radius: $2\sqrt{2}$

Identify the Center, vertices, co-vertices, foci, asymptotes, and eccentricity of each. Then sketch the graph.

4) $-9x^2 + y^2 + 18x - 4y - 14 = 0$



Vertices: $(1, 5)$
 $(1, -1)$
 Foci: $(1, 2 + \sqrt{10})$
 $(1, 2 - \sqrt{10})$
 Asym.: $y = 3x - 1$
 $y = -3x + 5$
 Eccentricity: $\frac{\sqrt{10}}{3} \approx 1.054$

Use the information provided to write the standard form equation of each ellipse.

5) Foci: $\left(\frac{3}{2}, \frac{6\sqrt{5}+9}{2}\right), \left(\frac{3}{2}, \frac{-6\sqrt{5}+9}{2}\right)$
Endpoints of minor axis: $\left(\frac{7}{2}, \frac{9}{2}\right), \left(-\frac{1}{2}, \frac{9}{2}\right)$

$$\frac{\left(x - \frac{3}{2}\right)^2}{4} + \frac{\left(y - \frac{9}{2}\right)^2}{49} = 1$$

6) Vertices: $(16, -1), (-10, -1)$
Co-vertices: $(3, 8), (3, -10)$

$$\frac{(x-3)^2}{169} + \frac{(y+1)^2}{81} = 1$$

Use the information provided to write the standard form equation of each hyperbola.

7) Foci: $(6, 5), (6, -21)$

Asymptotes: $y = \frac{5}{12}x - \frac{21}{2}$

$$y = -\frac{5}{12}x - \frac{11}{2}$$

$$\frac{(y+8)^2}{25} - \frac{(x-6)^2}{144} = 1$$

8) Vertices: $(-6 + \sqrt{55}, 3), (-6 - \sqrt{55}, 3)$
Perimeter of Central Rectangle = $4\sqrt{55} + 12\sqrt{15}$

$$\frac{(x+6)^2}{55} - \frac{(y-3)^2}{135} = 1$$

Use the information provided to write the vertex form equation of each parabola.

9) Vertex: $(1, 2)$, Focus: $\left(1, \frac{9}{4}\right)$

$$y = (x - 1)^2 + 2$$

10) Vertex: $(-6, 4)$, Directrix: $x = -\frac{25}{4}$

$$x = (y - 4)^2 - 6$$

Use the information provided to write the standard form equation of each circle.

11) Center: $(-11, -7)$
Point on Circle: $(-19, -7)$

$$(x + 11)^2 + (y + 7)^2 = 64$$

12) $(x + 8)^2 + (y + 2)^2 = 31$
Translated 1 left, 5 down

$$(x + 9)^2 + (y + 7)^2 = 31$$