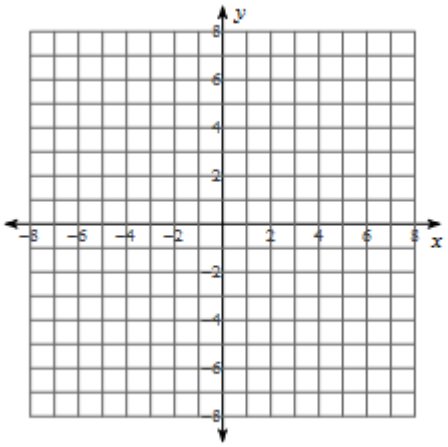
Conic Sections Review Worksheet 1

1. Find the required information and graph the conic section:

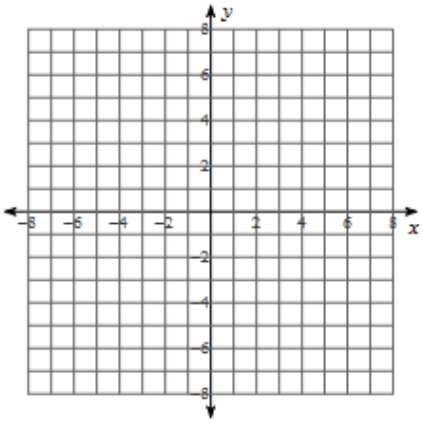
$$\frac{(x+2)^2}{25}+\frac{(y-4)^2}{4}=1$$



Classify the conic section: _____ **Center:** _____

Vertices: _____ **Foci:** _____

2. Find the required information and graph the conic section: $y=2x^2-8x+4$

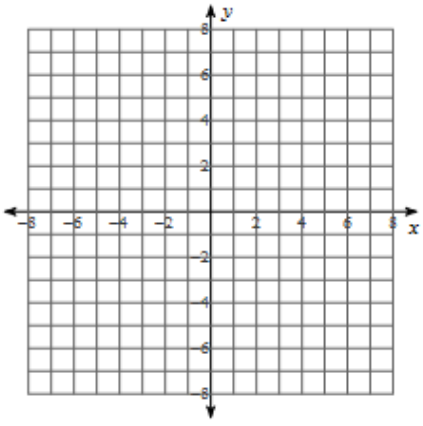


Classify the conic section: _____ **Vertex:** _____

Focus: _____ **Directrix:** _____

3. Find the required information. Then graph the conic section.

$$\frac{(x-2)^2}{9}-\frac{(y-1)^2}{16}=1$$

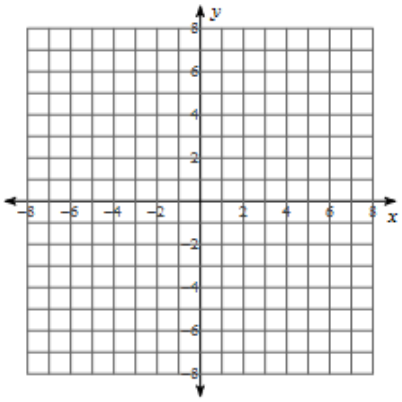


Classify the conic section: _____ **Foci:** _____

Vertices: _____ **Asymptotes:** _____ **Center:** _____

4. Find the equation of the circle that is tangent to the line x = 8 that has a center at (-5, 10).

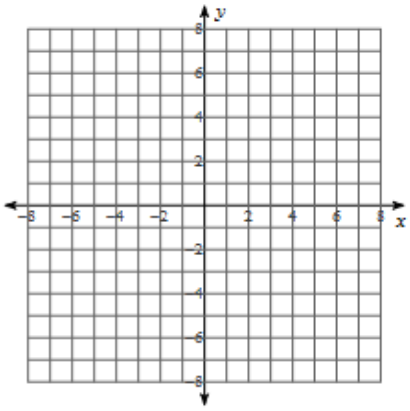
5. Find the required information and graph: $(x+3)^2+(y-1)^2=9$



Classify the conic section: _____ **Center:** _____ **Radius:** _____

6. Write the equation of the parabola in vertex form that has a the following information:
Vertex: (2, -8) **Directrix:** $x = 3$

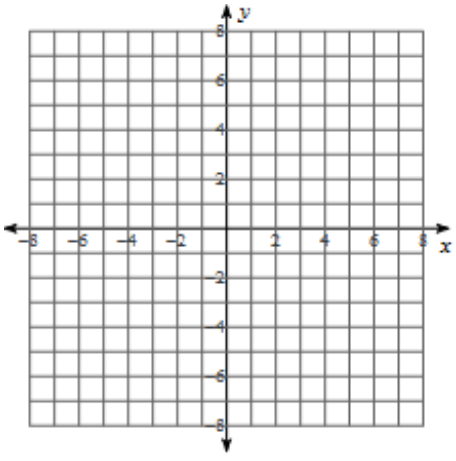
7. Find the required information and graph: $7x^2+3y^2-42x+6y-39=0$



Classify the conic section: _____ **Center:** _____

Vertices: _____ **Foci:** _____

8. Find the required information and graph the conic section:
$4y^2+x-32y+68=0$



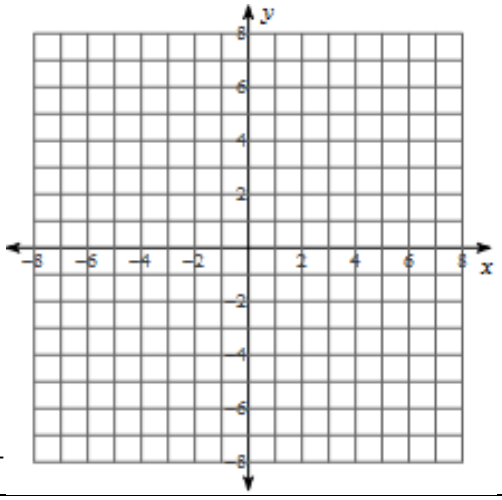
Classify the conic section: _____ **Vertex:** _____

Focus: _____ **Directrix:** _____

9. Find the equation of the circle that is tangent to equation y = (-2) that has a center at (-6, 12).

10. Find the required information and graph:

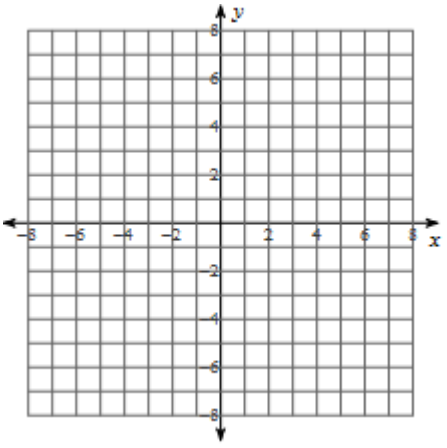
$$2x^2 + 2y^2 + 2x + 14y + 17 = 0$$



Classify the conic section: _____ **Center:** _____

11. Find the required information. Then graph the conic section.

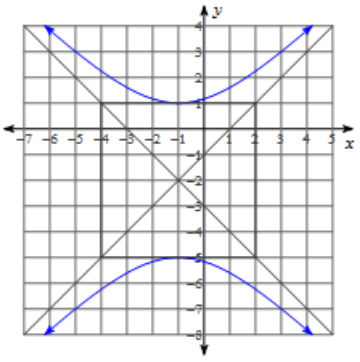
$$-9x^2 + 4y^2 - 18x + 16y - 29 = 0$$



Classify the conic section: _____ **Foci:** _____

Vertices: _____ **Asymptotes:** _____ **Center:** _____

12. Write the equation of the hyperbola shown.



13. Write the equation of the hyperbola in vertex form that has a the following information:

Vertices: (9, 12) and (9, -18)
Foci: $(9, -3 + \sqrt{229})$ *and* $(9, -3 - \sqrt{229})$

14. Write the equation of the circle in standard form given the endpoints of the diameter: (-12, 10) and (-18, 12).

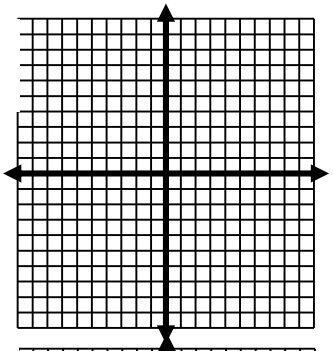
15. Use the information provided to write the equation of the ellipse in standard form.

Center: (-9, -5) **Vertex:** (-9, -16) **Focus:** $(-9, -5 + 6\sqrt{2})$

Part III: Find the equation for 16-20: { Hint: Graph to help find the equation }

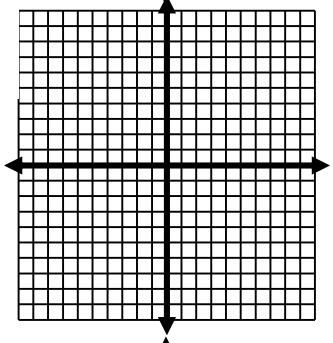
16) Center (7, 3) Vertex (7, 9) Focus (7, -2)

16)



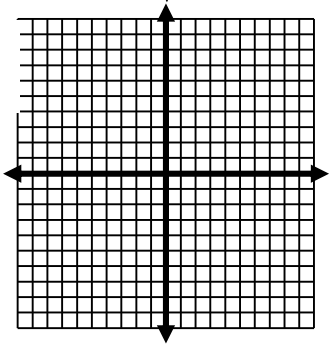
17) Asymptotes: $y = -\frac{5}{4}x + 1 \quad y = \frac{5}{4}x - 9$ Focus (4, $-4 + \sqrt{41}$

17)

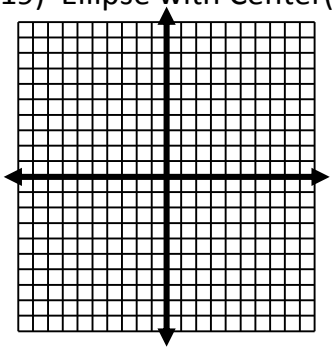


18) Focus (12, 8) Directrix: x = -2

18)



19) Ellipse with Center(1,2), vertex at (4,2) and contains the point (1,3)



20) Ellipse with Foci(2,7) and (-2,7) and the length of the major axis is 6.