Algebra 2 Name_____

Continuing Conic Sections HW

Date_____ Period____

Classify each conic section.

1) $x = -6(y-3)^2 - 4$

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

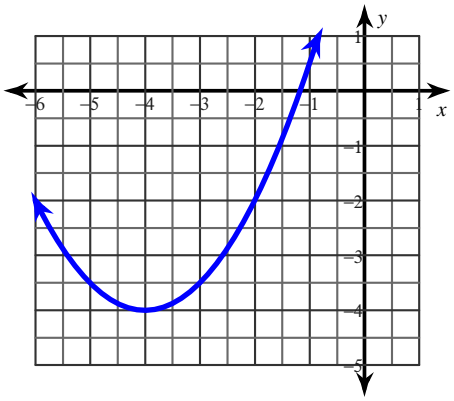
3) $\frac{(x-1)^2}{4} + \frac{(y-3)^2}{16} = 1$

4) $\frac{(x-1)^2}{9} + \frac{(y+1)^2}{25} = 1$

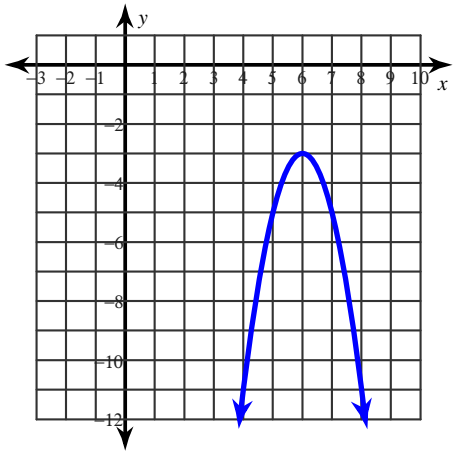
5) $4x^2 - 5y^2 - 100 = 0$

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

6)

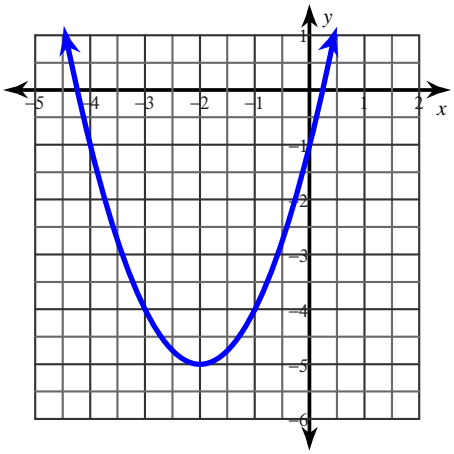


7)



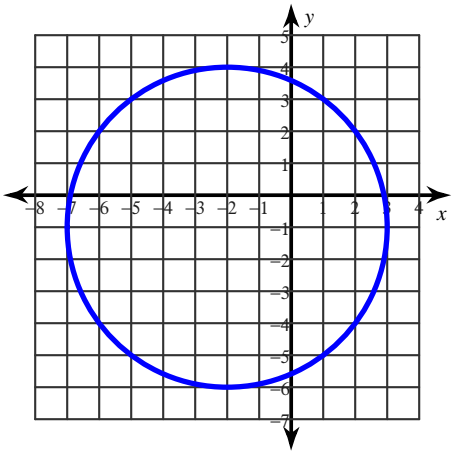
Use the information provided to write the standard form equation of each parabola.

8)

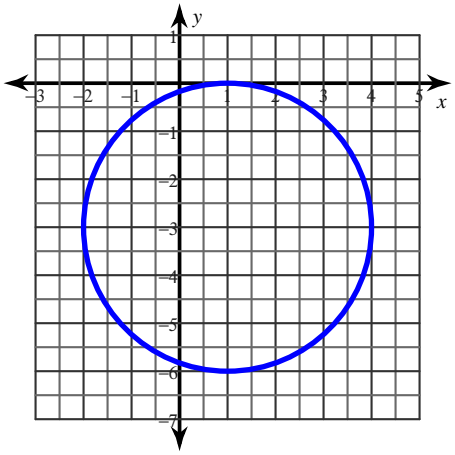


Use the information provided to write the standard form equation of each circle.

9)

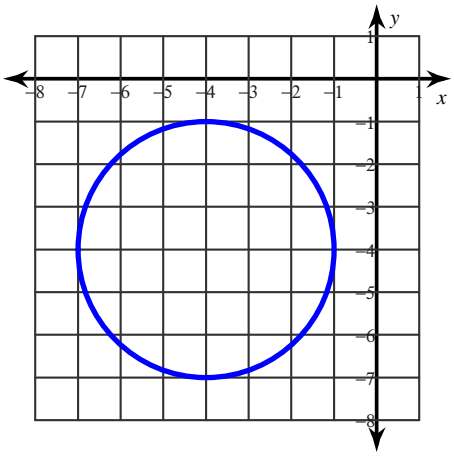


10)



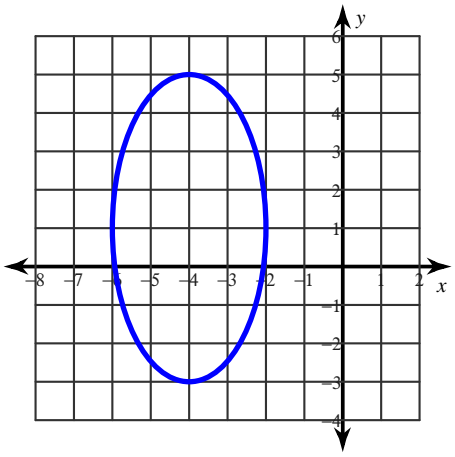
Use the information provided to write the general conic form equation of each circle.

11)



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

12)



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

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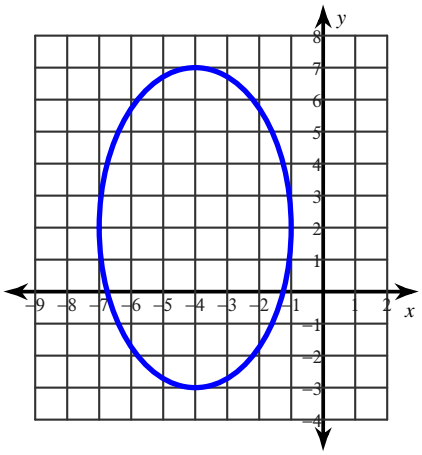
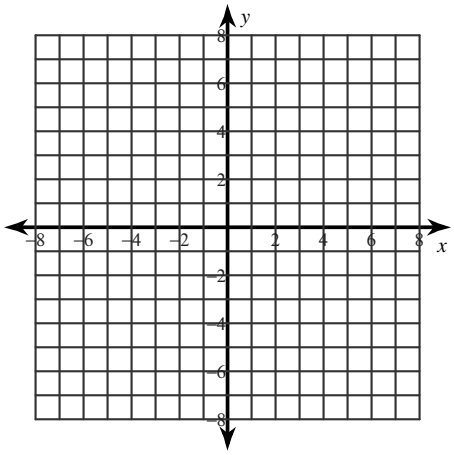
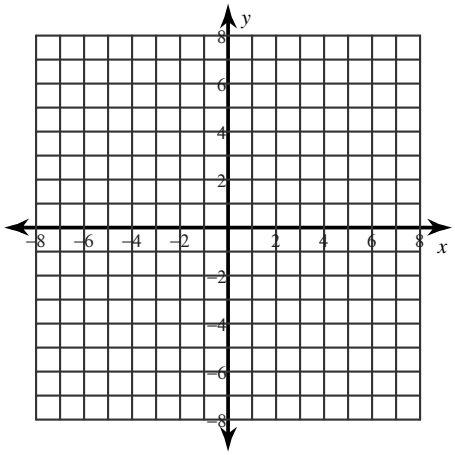


Identify the vertex and axis of symmetry of each. Then sketch the graph.

14) $y = \frac{1}{2}(x+5)^2 - 5$

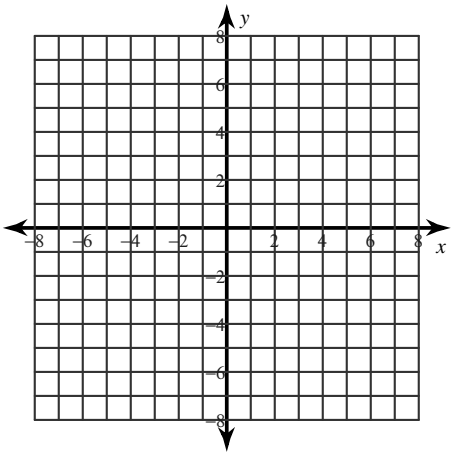


15) $-x^2 + 2x + y - 1 = 0$

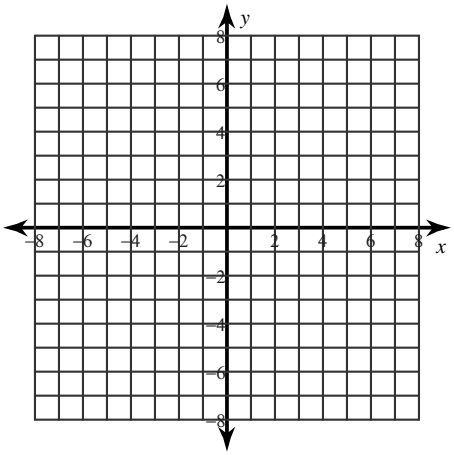


Identify the center and radius of each. Then sketch the graph.

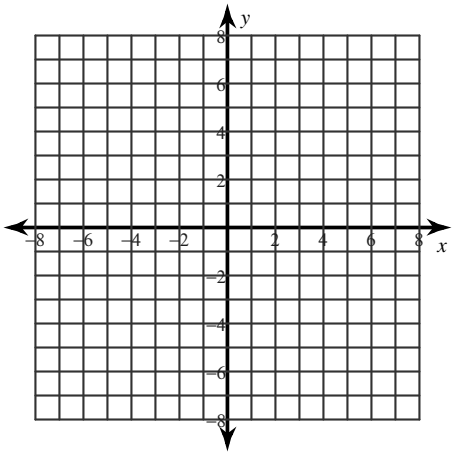
16) $(x+1)^2 + \left(y+\frac{7}{2}\right)^2 = 2$



17) $(x+2)^2 + (y-3)^2 = 1$

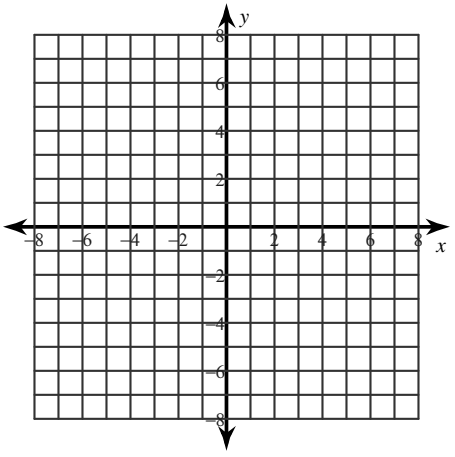


18) $x^2 + y^2 + 8x - 2y + 16 = 0$

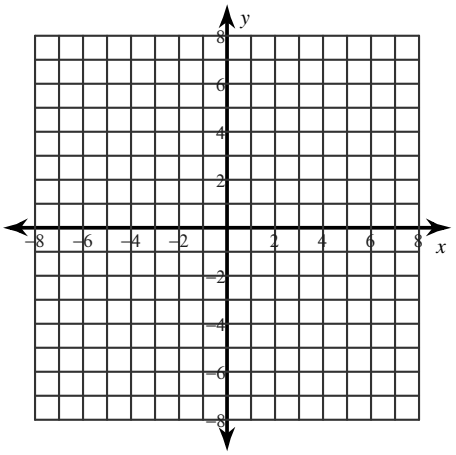


Identify the vertices and foci of each. Then sketch the graph.

19) $\frac{(x-1)^2}{16} + (y+4)^2 = 1$



20) $25x^2 + y^2 + 2y - 24 = 0$



Algebra 2 Name_____

Continuing Conic Sections HW

Date_____ Period____

Classify each conic section.

1) $x = -6(y-3)^2 - 4$

Parabola

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

Circle

3) $\frac{(x-1)^2}{4} + \frac{(y-3)^2}{16} = 1$

Ellipse

4) $\frac{(x-1)^2}{9} + \frac{(y+1)^2}{25} = 1$

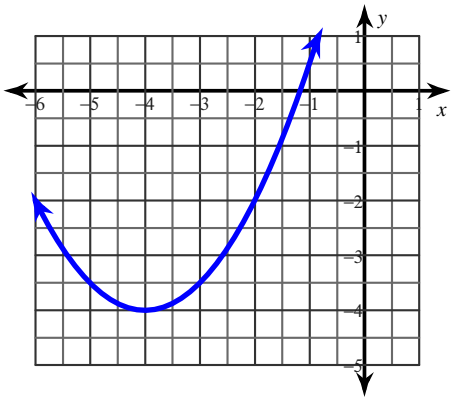
Ellipse

5) $4x^2 - 5y^2 - 100 = 0$

Hyperbola

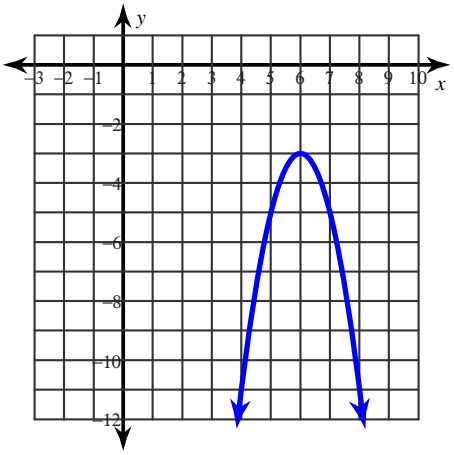
Use the information provided to write the vertex form equation of each parabola.

6)



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

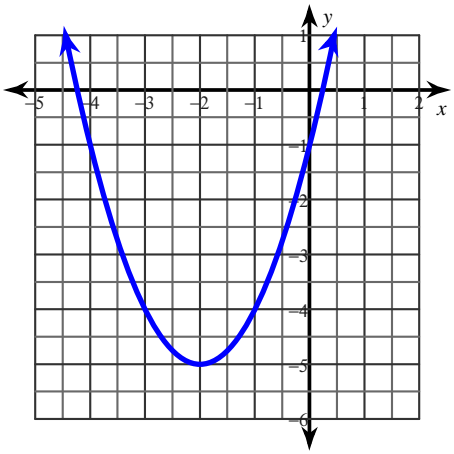
7)



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

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

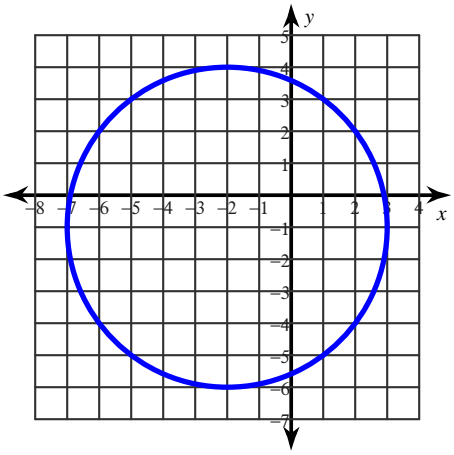
8)



$y = x^2 + 4x - 1$

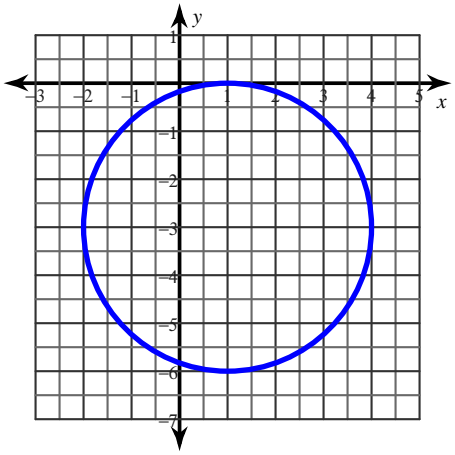
Use the information provided to write the standard form equation of each circle.

9)



$(x+2)^2+(y+1)^2=25$

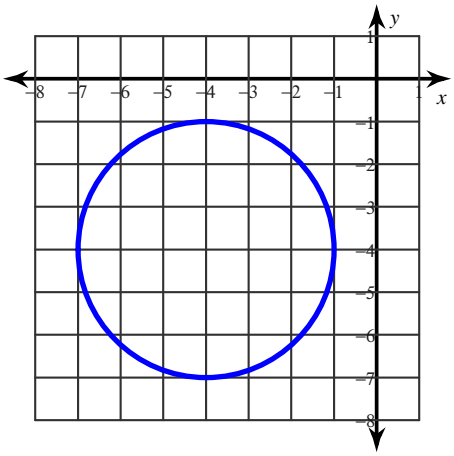
10)



$(x-1)^2+(y+3)^2=9$

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

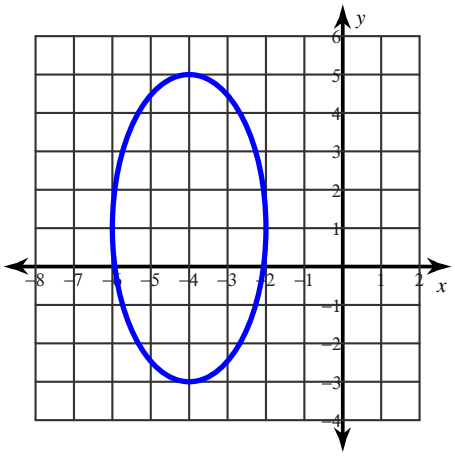
11)



$x^2+y^2+8x+8y+23=0$

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

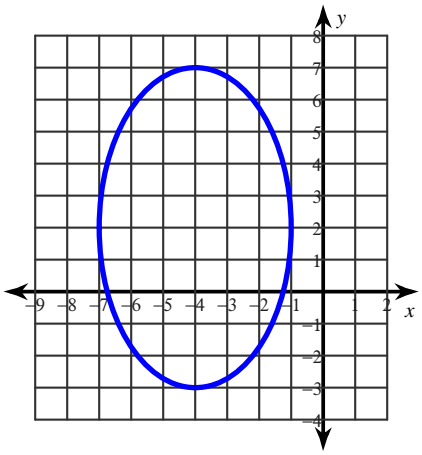
12)



$\frac{(x+4)^2}{4}+\frac{(y-1)^2}{16}=1$

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

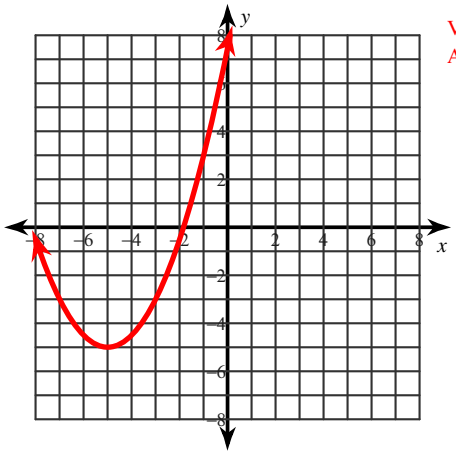
13)



$25x^2 + 9y^2 + 200x - 36y + 211 = 0$

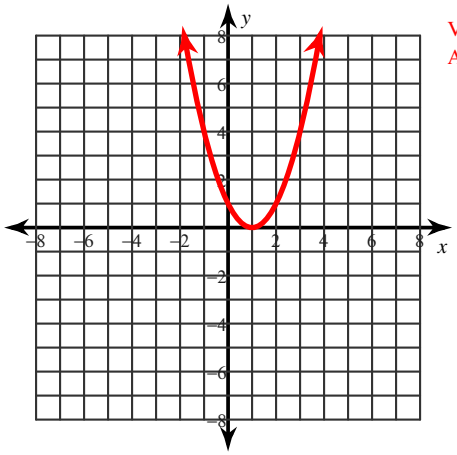
Identify the vertex and axis of symmetry of each. Then sketch the graph.

14) $y = \frac{1}{2}(x+5)^2 - 5$



Vertex: $(-5, -5)$
Axis of Sym.: $x = -5$

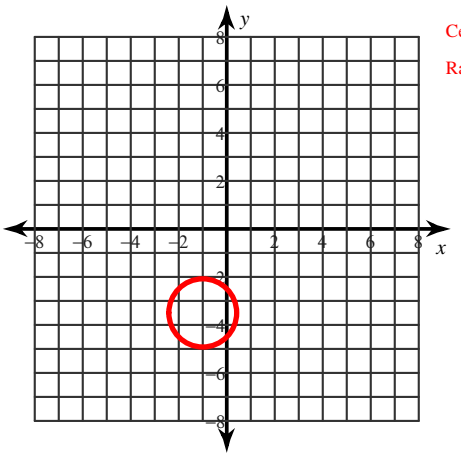
15) $-x^2 + 2x + y - 1 = 0$



Vertex: $(1, 0)$
Axis of Sym.: $x = 1$

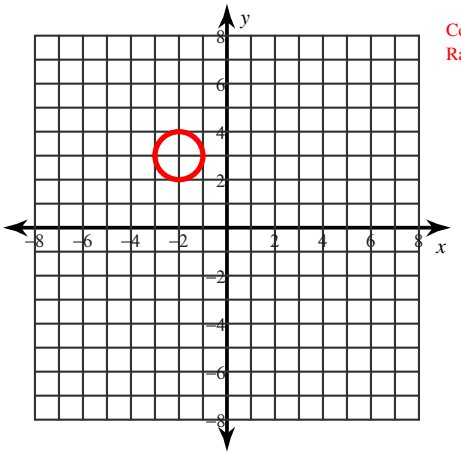
Identify the center and radius of each. Then sketch the graph.

16) $(x+1)^2 + \left(y+\frac{7}{2}\right)^2 = 2$



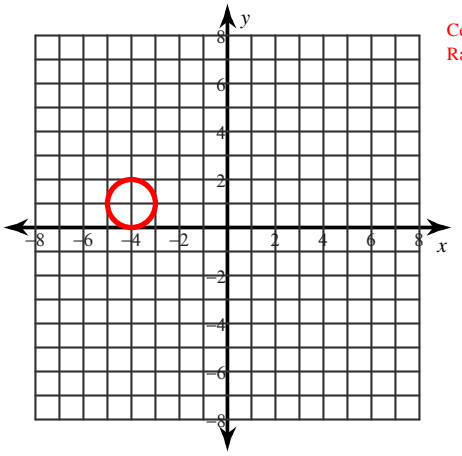
Center: $\left(-1, -\frac{7}{2}\right)$
Radius: $\sqrt{2}$

17) $(x+2)^2 + (y-3)^2 = 1$



Center: (–2, 3)
Radius: 1

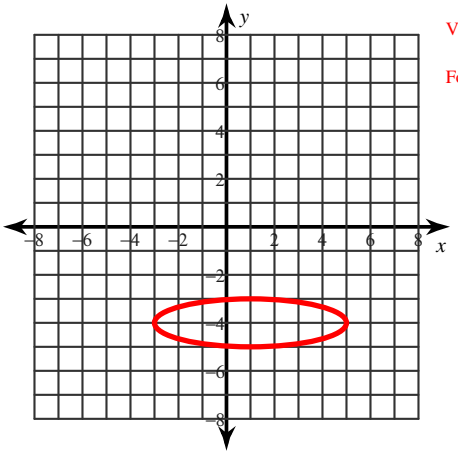
18) $x^2 + y^2 + 8x - 2y + 16 = 0$



Center: (–4, 1)
Radius: 1

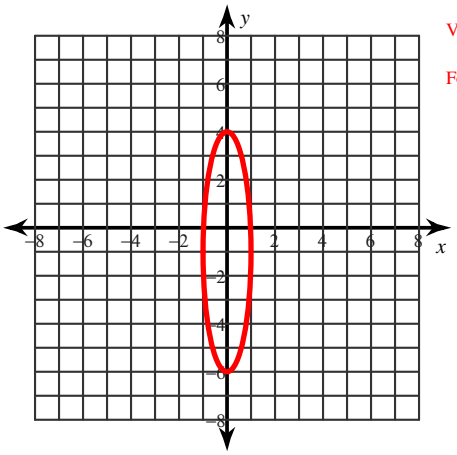
Identify the vertices and foci of each. Then sketch the graph.

19) $\frac{(x-1)^2}{16} + (y+4)^2 = 1$



Vertices: (5, –4)
(–3, –4)
Foci: $(1+\sqrt{15}, -4)$
$(1-\sqrt{15}, -4)$

20) $25x^2 + y^2 + 2y - 24 = 0$



Vertices: (0, 4)
(0, –6)
Foci: $(0, -1+2\sqrt{6})$
$(0, -1-2\sqrt{6})$