

Circles, Ellipses, Hyperbolas

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

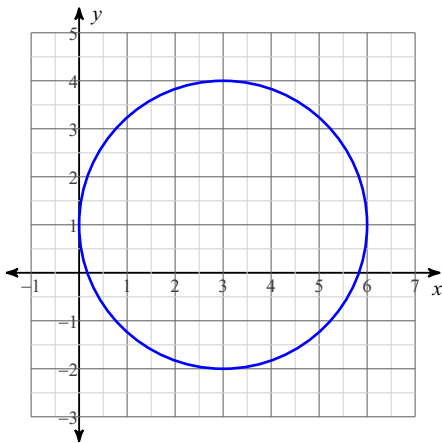
1) Center: $(0, 0)$
 Radius: $\sqrt{145}$

2) Ends of a diameter: $(-8, 17)$ and $(8, -17)$

3) Center: $(6, 10)$
 Point on Circle: $(11, 12)$

4) Ends of a diameter: $(9, -14)$ and $(-1, 4)$

5)

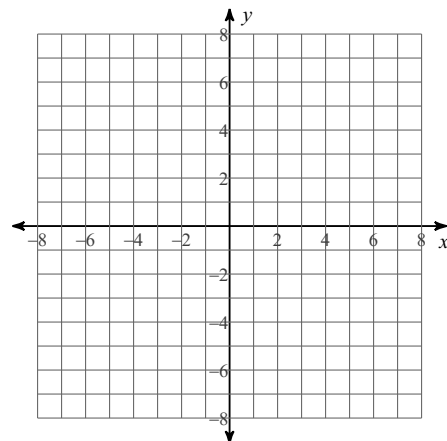
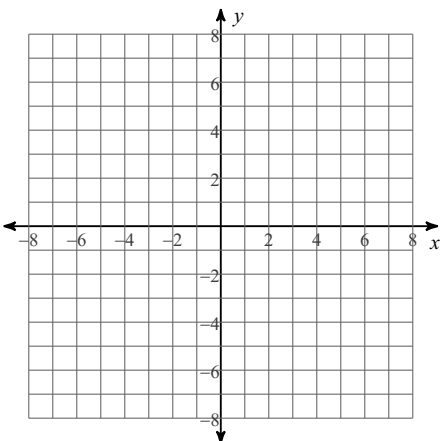


6) $x^2 + y^2 + 14x + 22y + 136 = 0$

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

7) $(x - 4)^2 + (y - 2)^2 = 4$

8) $x^2 + y^2 - 4x + 8y + 18 = 0$

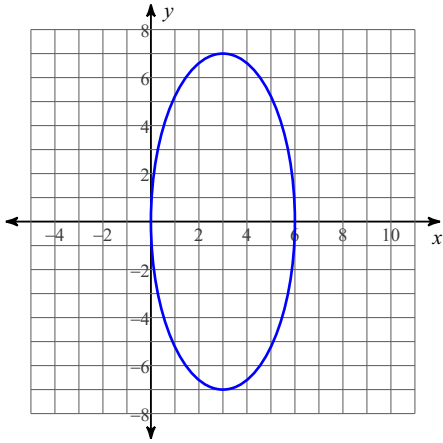


Use the information provided to write the standard form equation of each ellipse.

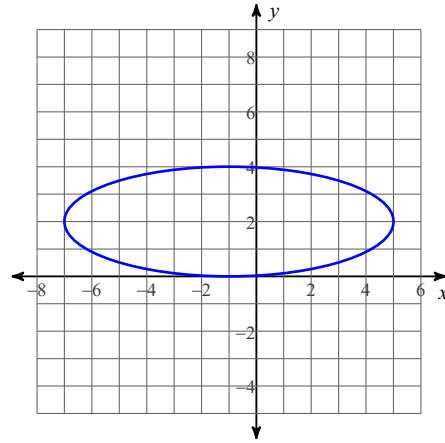
- 9) Vertices: $(7, 0)$, $(-7, 0)$
 Co-vertices: $(0, 4)$, $(0, -4)$

- 10) Endpoints of major axis: $(0, 10)$, $(0, -10)$
 Endpoints of minor axis: $(9, 0)$, $(-9, 0)$

11)



12)

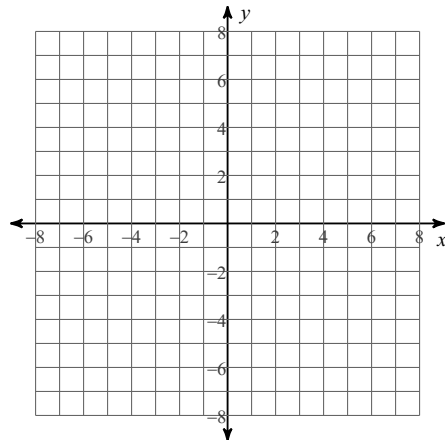
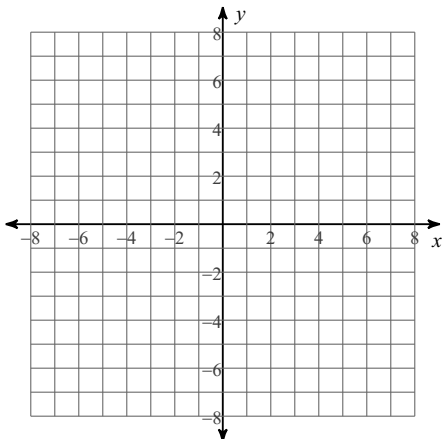


13) $16x^2 + 81y^2 - 288x + 162y + 81 = 0$

Identify the center, vertices, co-vertices, foci, length of the major axis, and length of the minor axis of each. Then sketch the graph.

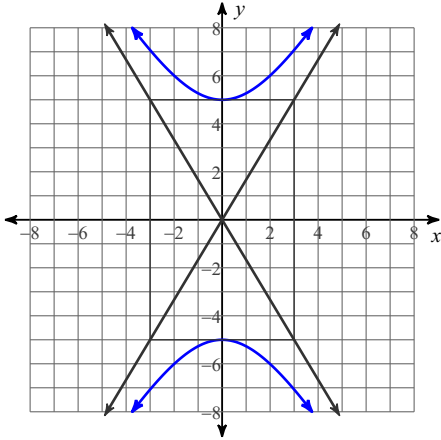
14) $\frac{x^2}{49} + \frac{(y+1)^2}{4} = 1$

15) $49x^2 + 9y^2 + 294x = 0$

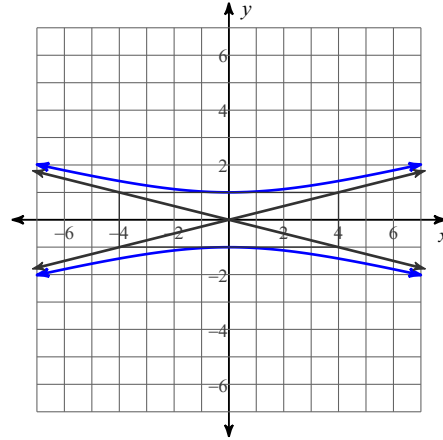


Use the information provided to write the standard form equation of each hyperbola.

16)



17)



- 18) Center at $(-4, 9)$
 Transverse axis is vertical and 2 units long
 Conjugate axis is 20 units long

19) $-x^2 + y^2 + 18x + 6y - 97 = 0$

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

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

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

