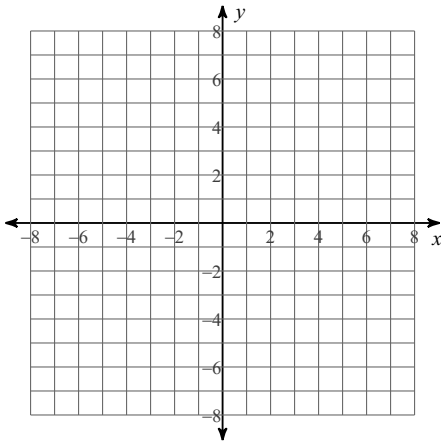


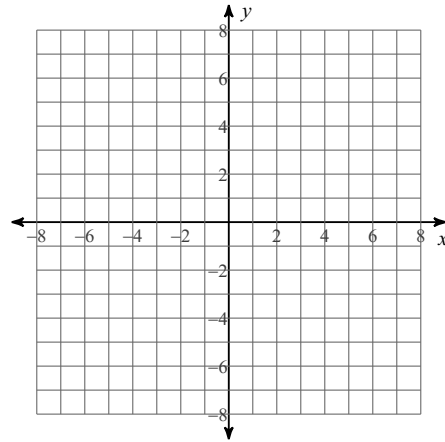
# Ellipses

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

1)  $x^2 + y^2 + 8x - 8y + 31 = 0$



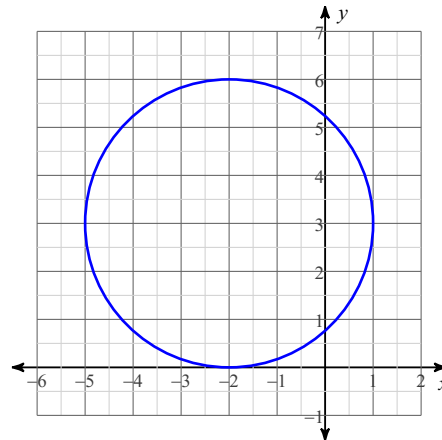
2)  $(x + 3)^2 + (y + 1)^2 = 11$



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

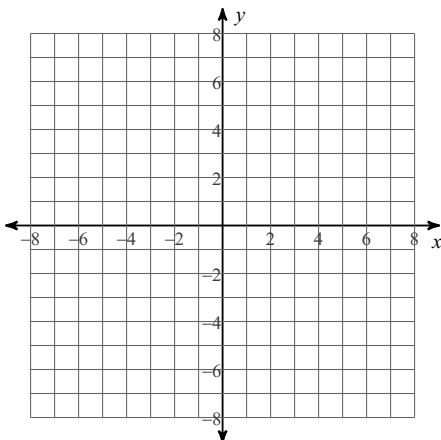
- 3) Center:  $(4, 1)$   
 Point on Circle:  $(-3, -10)$

4)

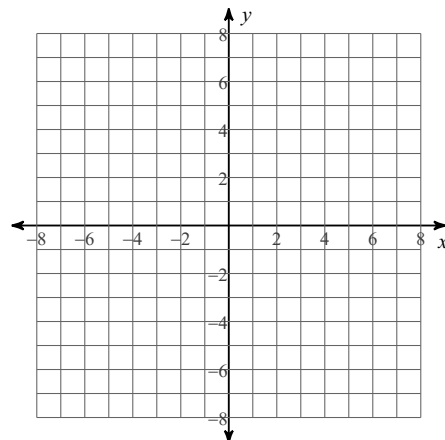


Identify the center, length of the major axis, and length of the minor axis of each. Then sketch the graph.

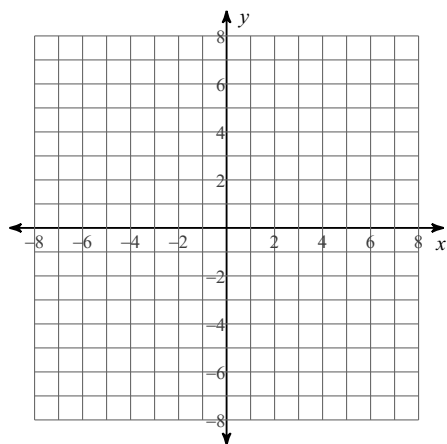
5)  $\frac{x^2}{16} + \frac{y^2}{49} = 1$



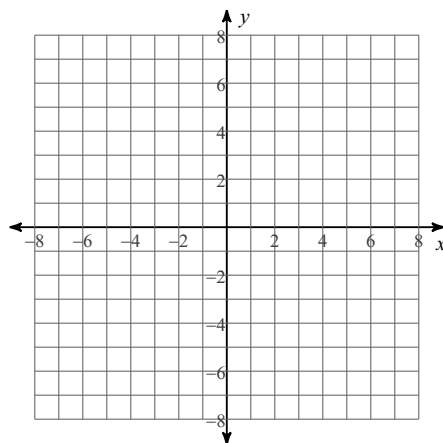
6)  $\frac{(x + 2)^2}{4} + \frac{(y - 1)^2}{25} = 1$



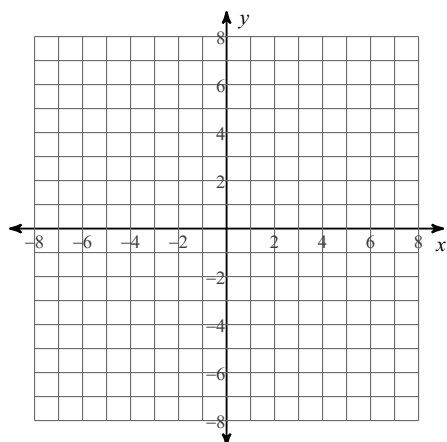
$$7) \frac{(x+3)^2}{9} + \frac{(y-2)^2}{4} = 1$$



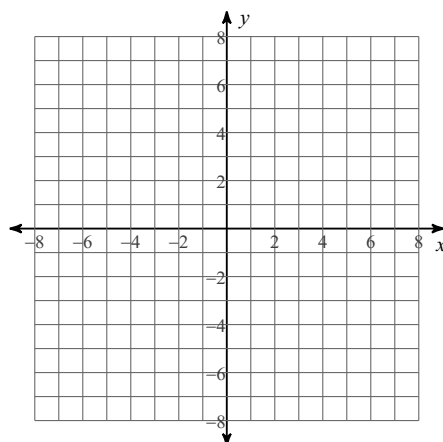
$$8) 16x^2 + 25y^2 + 32x - 50y - 359 = 0$$



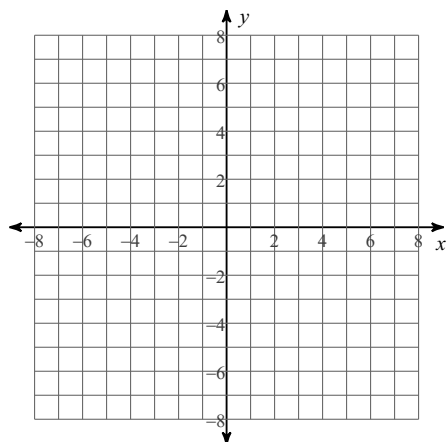
$$9) 49x^2 + 16y^2 + 98x - 735 = 0$$



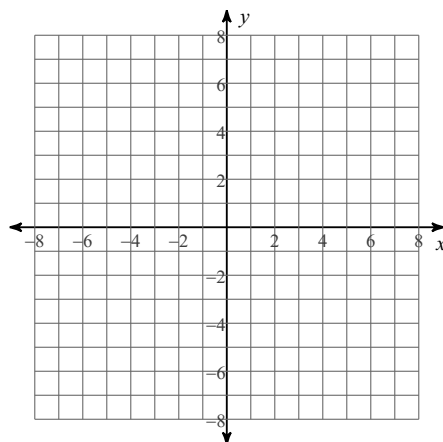
$$10) 16x^2 + y^2 + 2y - 15 = 0$$



$$11) x^2 + 36y^2 - 72y = 0$$



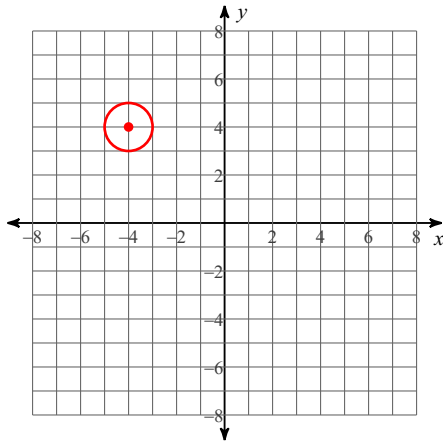
$$12) x^2 + 4y^2 - 4x - 12 = 0$$



# Ellipses

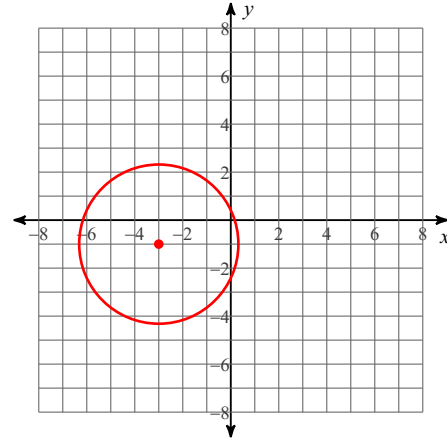
Identify the center and radius of each. Then sketch the graph.

1)  $x^2 + y^2 + 8x - 8y + 31 = 0$



Center: (-4, 4)  
Radius: 1

2)  $(x + 3)^2 + (y + 1)^2 = 11$

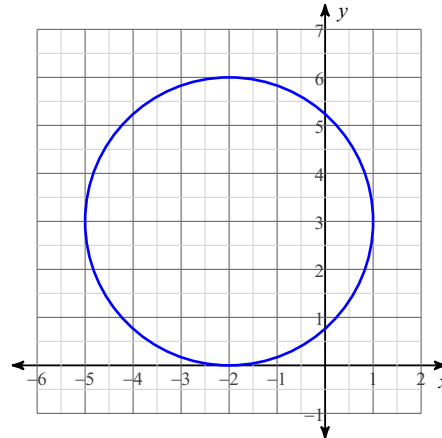


Center: (-3, -1)  
Radius:  $\sqrt{11}$

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

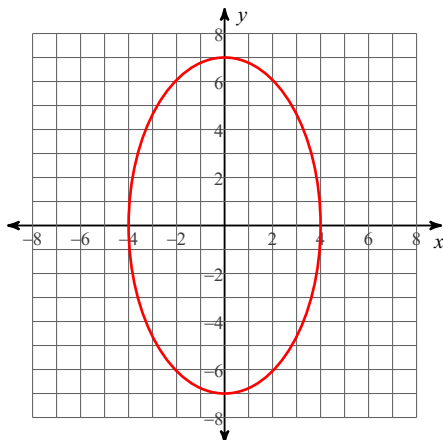
3) Center: (4, 1)  $(x - 4)^2 + (y - 1)^2 = 1704$   
Point on Circle: (-3, -10)

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



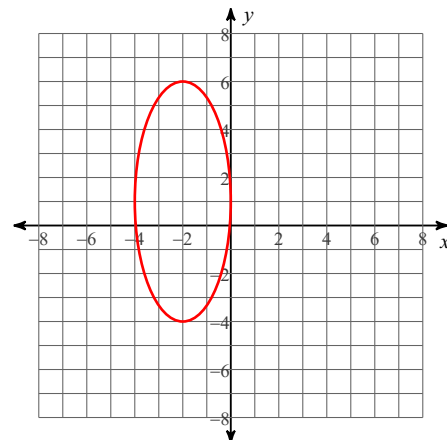
Identify the center, length of the major axis, and length of the minor axis of each. Then sketch the graph.

5)  $\frac{x^2}{16} + \frac{y^2}{49} = 1$



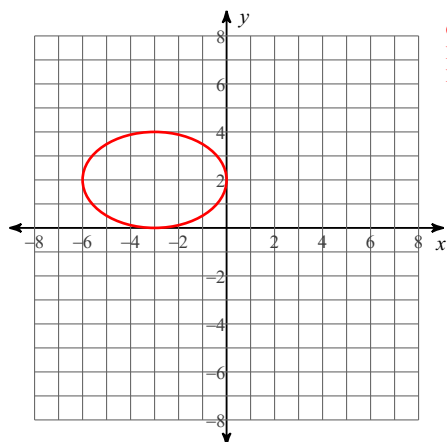
Center: (0, 0)  
Major Axis: 14 units  
Minor Axis: 8 units

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



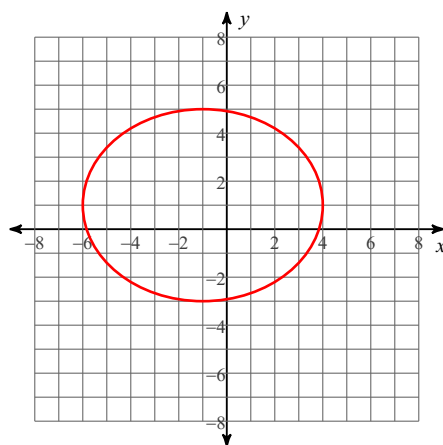
Center: (-2, 1)  
Major Axis: 10 units  
Minor Axis: 4 units

$$7) \frac{(x+3)^2}{9} + \frac{(y-2)^2}{4} = 1$$



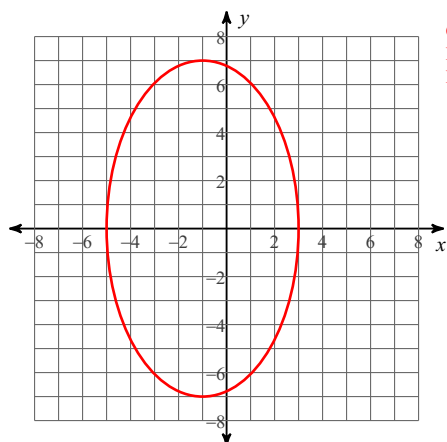
Center: (-3, 2)  
Major Axis: 6 units  
Minor Axis: 4 units

$$8) 16x^2 + 25y^2 + 32x - 50y - 359 = 0$$



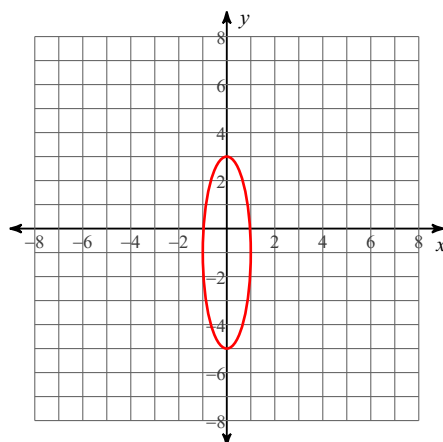
Center: (-1, 1)  
Major Axis: 10 units  
Minor Axis: 8 units

$$9) 49x^2 + 16y^2 + 98x - 735 = 0$$



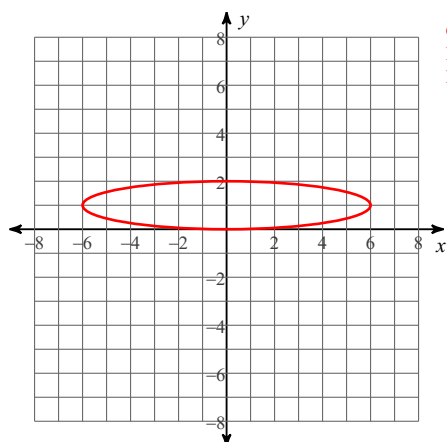
Center: (-1, 0)  
Major Axis: 14 units  
Minor Axis: 8 units

$$10) 16x^2 + y^2 + 2y - 15 = 0$$



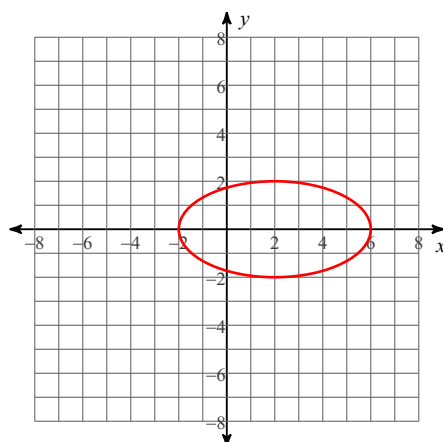
Center: (0, -1)  
Major Axis: 8 units  
Minor Axis: 2 units

$$11) x^2 + 36y^2 - 72y = 0$$



Center: (0, 1)  
Major Axis: 12 units  
Minor Axis: 2 units

$$12) x^2 + 4y^2 - 4x - 12 = 0$$



Center: (2, 0)  
Major Axis: 8 units  
Minor Axis: 4 units