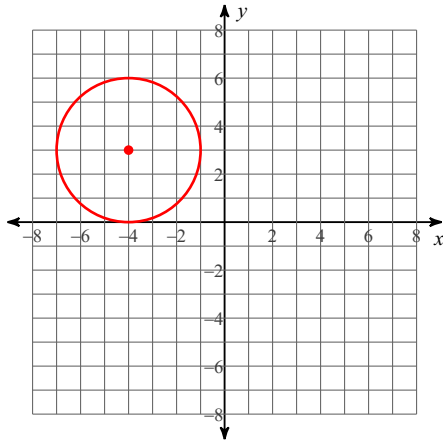


# Circle Equation

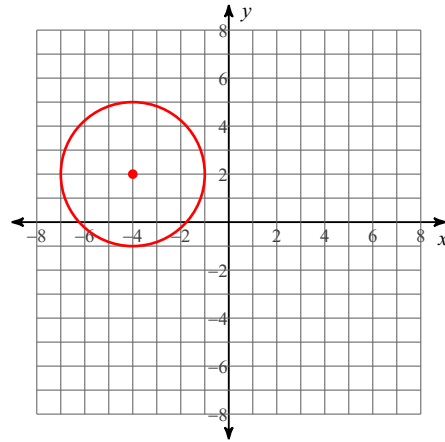
Identify the center and radius of each. Then sketch the graph.

1)  $(x + 4)^2 + (y - 3)^2 = 9$



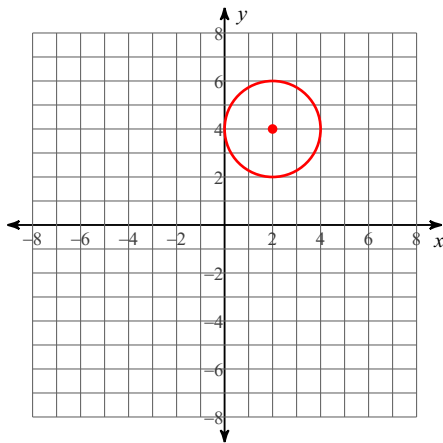
Center:  $(-4, 3)$   
Radius: 3

2)  $(x + 4)^2 + (y - 2)^2 = 9$



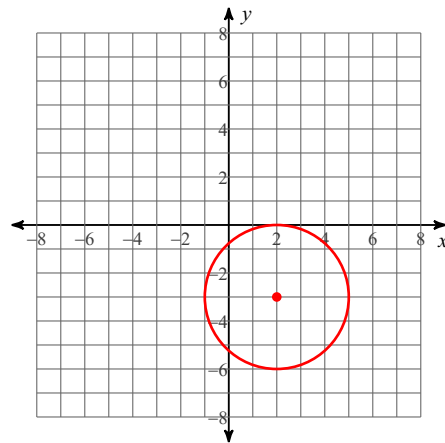
Center:  $(-4, 2)$   
Radius: 3

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



Center:  $(2, 4)$   
Radius: 2

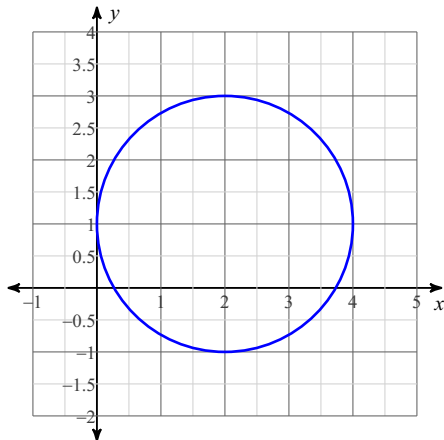
4)  $(x - 2)^2 + (y + 3)^2 = 9$



Center:  $(2, -3)$   
Radius: 3

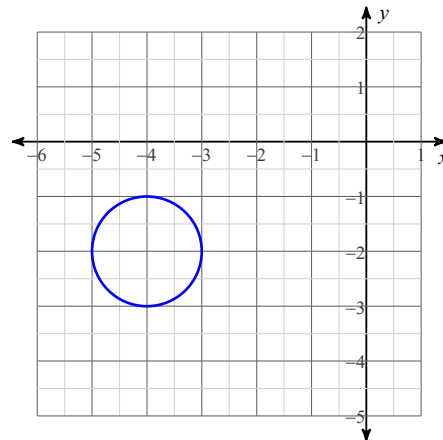
Use the information provided to write the equation of each circle.

5)



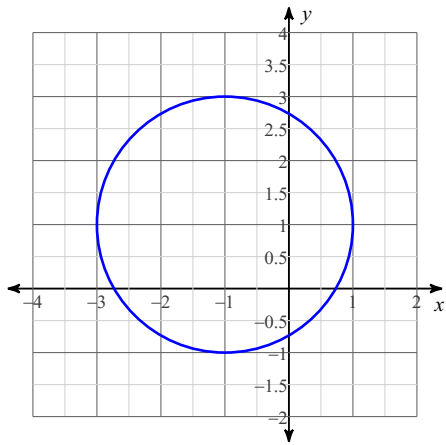
$(x - 2)^2 + (y - 1)^2 = 4$

6)



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

7)

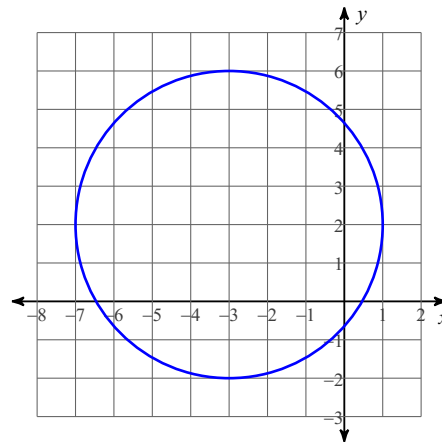


$$(x + 1)^2 + (y - 1)^2 = 4$$

9) Center:  $(-15, 5)$   
Point on Circle:  $(-15, 8)$

$$(x + 15)^2 + (y - 5)^2 = 9$$

8)



$$(x + 3)^2 + (y - 2)^2 = 16$$

10) Center:  $(14, 9)$   
Point on Circle:  $(14, 10)$

$$(x - 14)^2 + (y - 9)^2 = 1$$

11) Ends of a diameter:  $(2, -9)$  and  $(4, -11)$

$$(x - 3)^2 + (y + 10)^2 = 2$$

12) Ends of a diameter:  $(8, 11)$  and  $(-11, -2)$

$$\left(x + \frac{3}{2}\right)^2 + \left(y - \frac{9}{2}\right)^2 = \frac{265}{2}$$