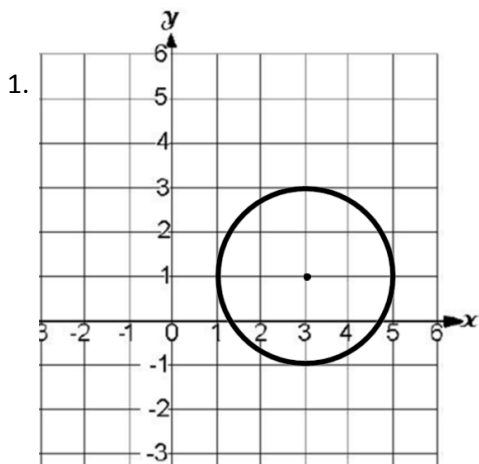
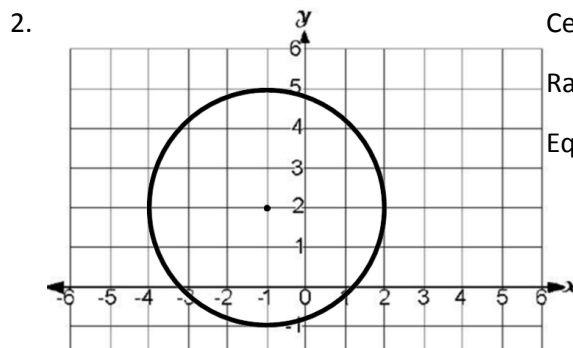


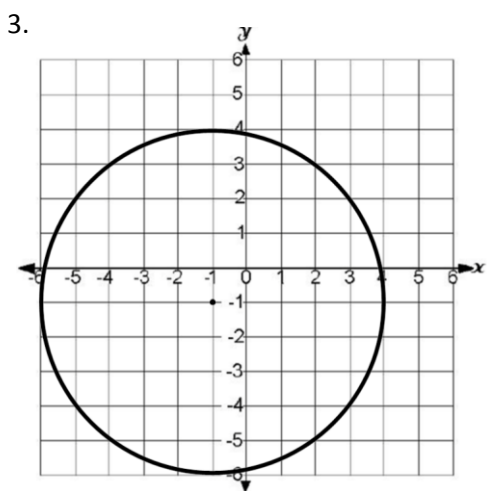
Find the center and radius of the given circle and write the equation of the circle.



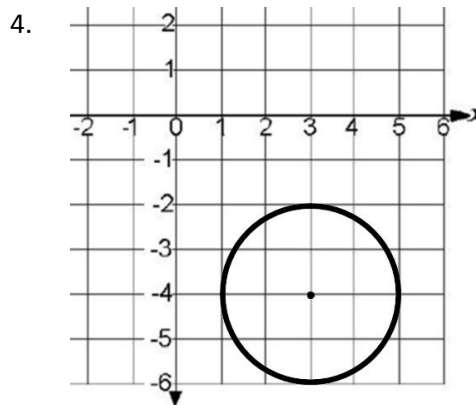
center:  
Radius:  
Equation:



Center:  
Radius:  
Equation



center:  
Radius:  
Equation:

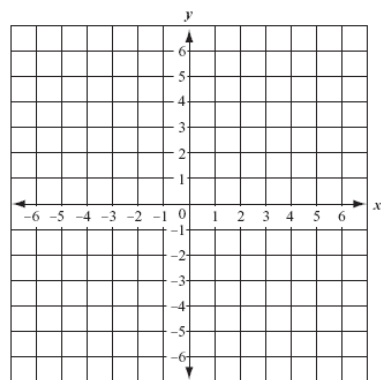


Center:  
Radius:  
Equation

Identify the center and radius of the following circles and then graph them.

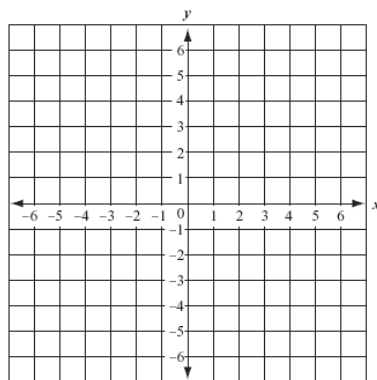
5.  $(x + 4)^2 + (y - 6)^2 = 1$

r=                      center=



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

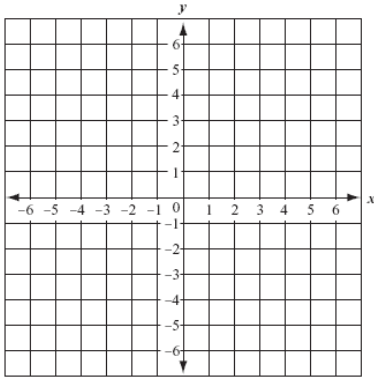
r=                      center=



Identify the center and radius of the following circles and then graph them.

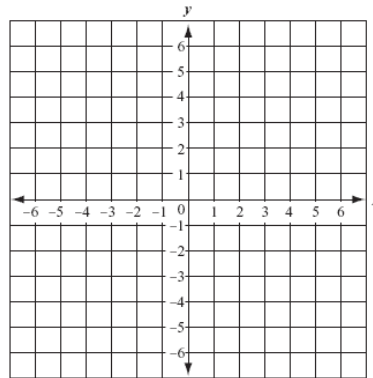
7.  $(x + 4)^2 + (y + 1)^2 = 3^2$

r=                      center=



8.  $(x - 4)^2 + (y + 1)^2 = 16$

r=                      center=



9. A circle has a diameter with endpoints  $(4, 9)$  and  $(-2, 1)$ . Identify the center and length of the radius. Then write an equation for the circle.

10. A circle has a center at  $(2,4)$  and a point on the circle is  $(14,9)$ . Write an equation for this circle.

11. Prove or disprove that point  $(8,4)$  lies on a circle that is centered at  $(2,-4)$  and a contains the point  $(10,-10)$ .

12. Prove or disprove that point  $(13,8)$  lies on a circle that is centered at  $(1,3)$  and contains the point  $(1,16)$ .