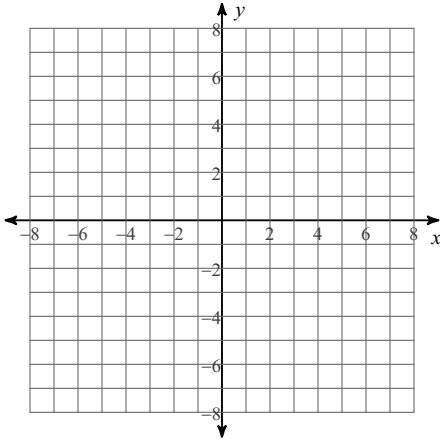


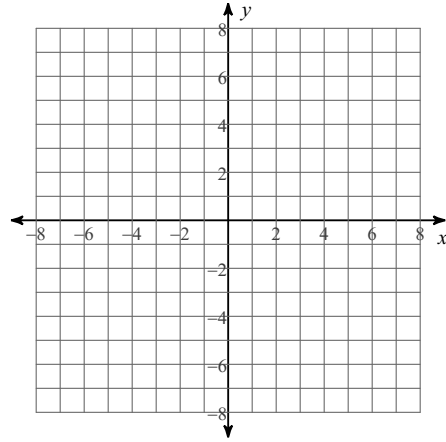
## 9.6 - Equations of Circles

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

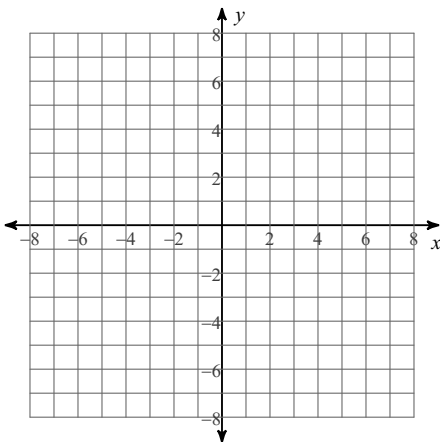
1)  $(x + 3)^2 + (y + 2)^2 = 1$



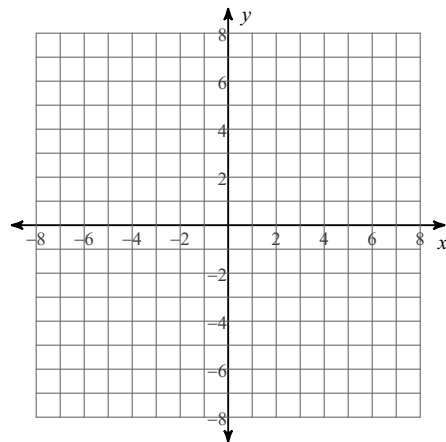
2)  $(x - 2)^2 + y^2 = 16$



3)  $(x + 1)^2 + (y - 3)^2 = 16$



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



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

5) Center:  $(0, -2)$   
Radius: 12

6) Center:  $(-12, -10)$   
Radius:  $\sqrt{11}$

7) Center:  $(-1, -3)$   
Area:  $49\pi$

8) Center:  $(10, 4)$   
Area:  $36\pi$

9) Center:  $(-10, 12)$   
Circumference:  $10\pi$

10) Center:  $(2, -14)$   
Circumference:  $8\pi$

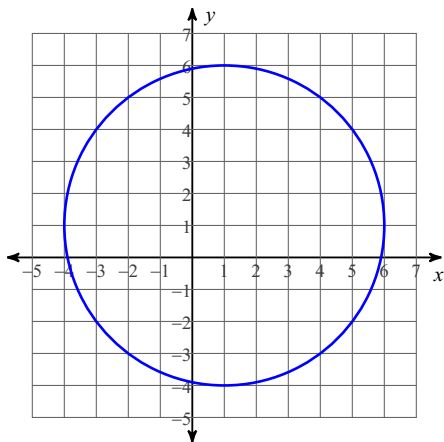
11) Center:  $(-8, 3)$   
Point on Circle:  $(3, 3)$

12) Center:  $(-4, 9)$   
Point on Circle:  $(5, 7)$

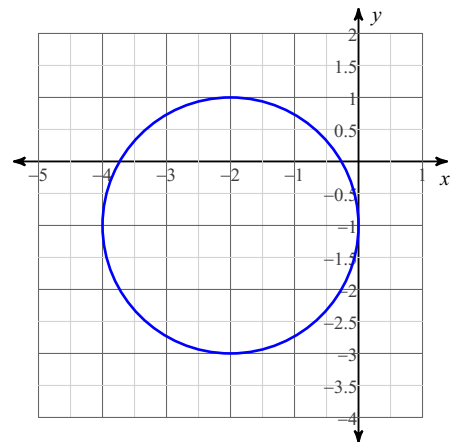
13) Ends of a diameter:  $(4, -4)$  and  $(-4, -10)$

14) Ends of a diameter:  $(13, 2)$  and  $(-9, -6)$

15)

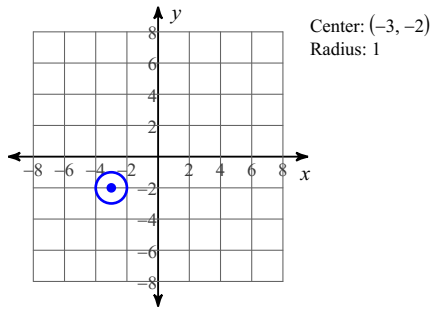


16)

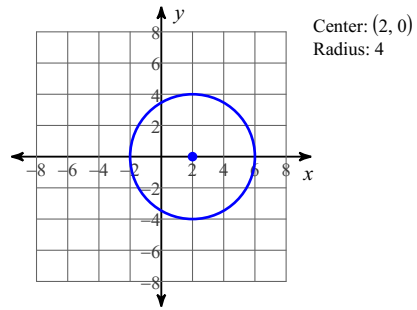


## Answers to 9.6 - Equations of Circles

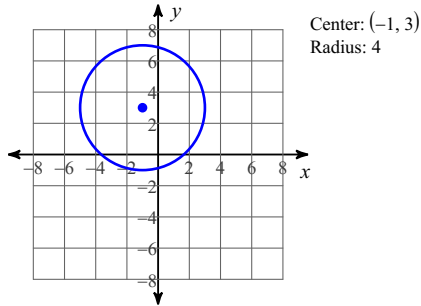
1)



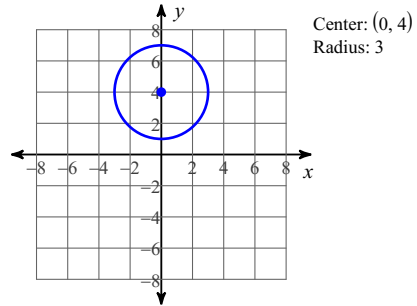
2)



3)



4)



5)  $x^2 + (y + 2)^2 = 144$

6)  $(x + 12)^2 + (y + 10)^2 = 11$

7)  $(x + 1)^2 + (y + 3)^2 = 49$

8)  $(x - 10)^2 + (y - 4)^2 = 36$

9)  $(x + 10)^2 + (y - 12)^2 = 25$

10)  $(x - 2)^2 + (y + 14)^2 = 16$

11)  $(x + 8)^2 + (y - 3)^2 = 121$

12)  $(x + 4)^2 + (y - 9)^2 = 85$

13)  $x^2 + (y + 7)^2 = 25$

14)  $(x - 2)^2 + (y + 2)^2 = 137$

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

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