

# Circles Worksheet

Name: \_\_\_\_\_

*Find the center and radius of each.*

1.  $x^2 + y^2 = 49$

2.  $(x + 2)^2 + (y - 3)^2 = 183$

3.  $x^2 + y^2 = 324$

4.  $(x + 7)^2 + (y + 8)^2 = 64$

5.  $x^2 + (y + 2)^2 = 121$

6.  $(x - 14)^2 + (y - 5)^2 = 4$

7.  $(x + 10)^2 + (y + 9)^2 = 8$

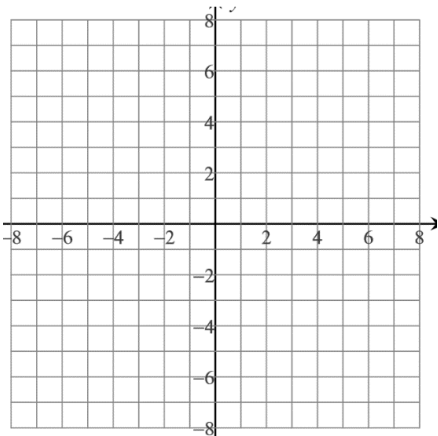
8.  $(x + 12)^2 + (y - 21)^2 = 125$

*State the center and radius of each equation and graph.*

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

Center:

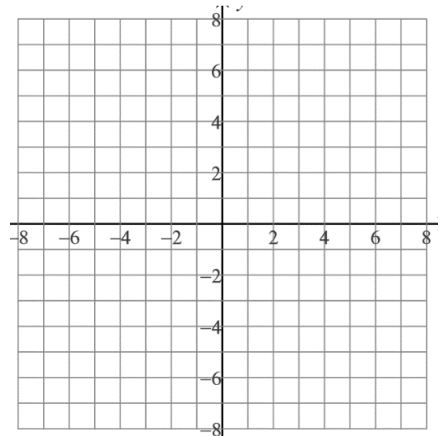
Radius:



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

Center:

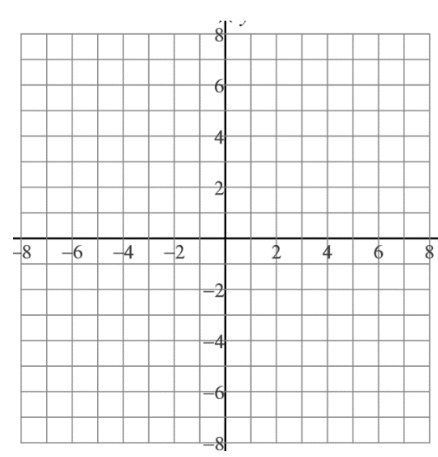
Radius:



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

Center:

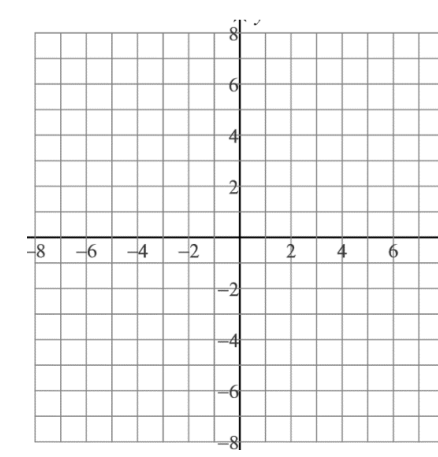
Radius:



12.  $(x - 3)^2 + (y - 3)^2 = 8$

Center:

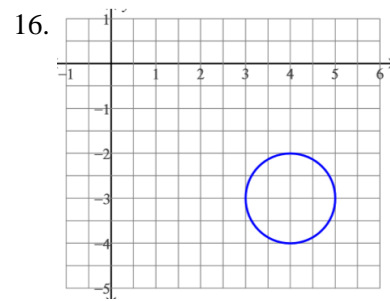
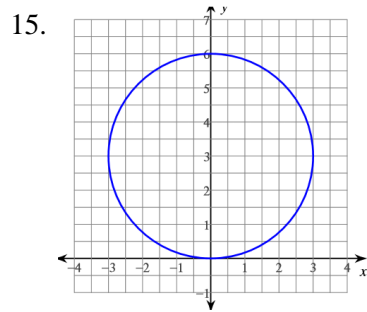
Radius:



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

13. Center:  $(-11, -8)$   
Radius: 4

14. Center:  $(-6, -15)$   
Radius:  $\sqrt{5}$



Complete the square. Find the standard form of each circle and state the center and radius.

17.  $x^2 + 24x + y^2 + 10y + 160 = 0$

18.  $x^2 + 26x + y^2 + 28y + 364 = 0$

19.  $x^2 - 6x + y^2 - 32y = -264$

20.  $-6x + x^2 = 97 + 10y - y^2$

**BONUS: Do work on a separate sheet of paper. Must show work to receive any credit.**

1. Write the equation of the circle that has endpoints of its diameter at  $(-17, -9)$  and  $(-19, -9)$
2. Write the equation of the circle whose center is  $(-10, 3)$  and whose circumference is  $8\pi$