

6.1 Circles

Name _____

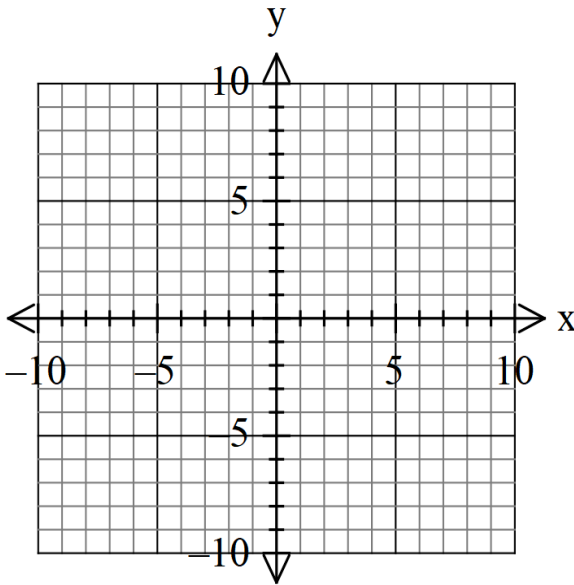
Date _____ Period _____

Given the standard form of a circle, identify the center and the radius of each circle. Then graph the circle.

1. $x^2 + y^2 = 64$

center: _____

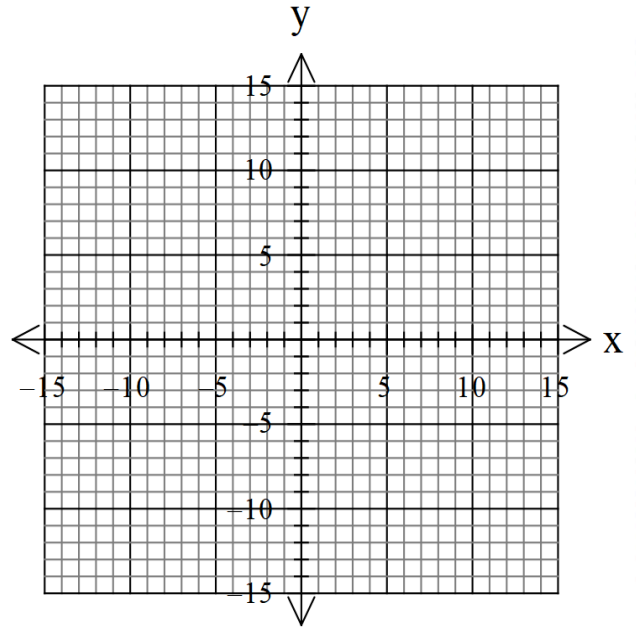
radius: _____



2. $(x+2)^2 + y^2 = 81$

center: _____

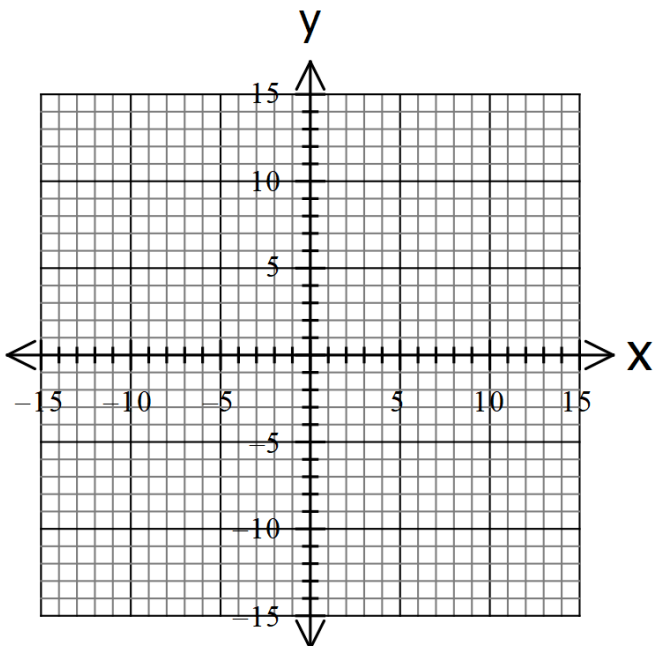
radius: _____



3. $(x-8)^2 + (y-2)^2 = 32$

center: _____

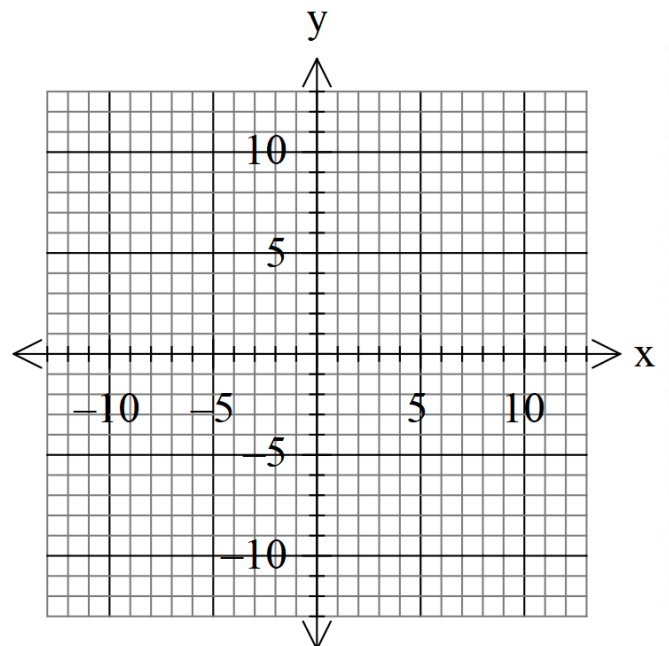
radius: _____



4. $x^2 + (y-5)^2 = 40$

center: _____

radius: _____

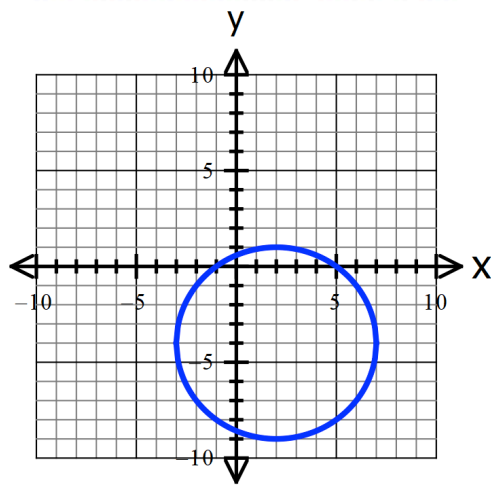


5. Write the standard form of the equation for the circle.

Center: _____

Radius: _____

Equation: _____



Write the standard form of a circle with the given characteristics.

6. A circle centered at the origin with a diameter of 14.

Center: _____

Radius: _____

Equation: _____

7. A circle with radius 10 centered at $(8, -6)$

Center: _____

Radius: _____

Equation: _____

8. A circle with diameter of 8 centered at $(3, -2)$

Center: _____

Radius: _____

Equation: _____

9. A circle with diameter of $\sqrt{10}$ centered at $(-2, -7)$

Center: _____

Radius: _____

Equation: _____

Find the midpoint.

10. $P_1 = (3, -6)$ and $P_2 = (-7, 8)$

11. $P_1 = (10, 15)$ and $P_2 = (-8, 3)$

Find the distance between the two points.

12. $P_1 = (3, -6)$ and $P_2 = (-7, 8)$

13. $P_1 = (3, -6)$ and $P_2 = (-7, 8)$

Write the standard form of a circle with the given characteristics. (hint: draw a picture of the circle)

14. A circle with center at $(0, 4)$ and a point on the circle at $(3, 6)$

Center: _____

Radius: _____

Equation: _____

15. A circle with diameter endpoints at $(3, -15)$ and $(-5, -15)$

Center: _____

Radius: _____

Equation: _____

16. A circle with diameter endpoints at $(9, 2)$ and $(-1, 6)$

Center: _____

Radius: _____

Equation: _____

17. A circle with center at $(7, -3)$ and a point on the circle at $(1, 5)$

Center: _____

Radius: _____

Equation: _____

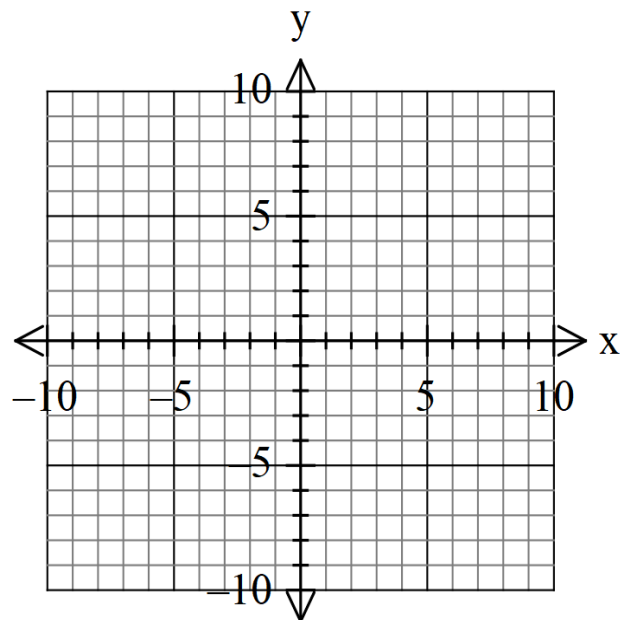
Complete the square to rewrite the equation in standard form. Find the center and the radius of a circle given by each equation and then draw the graph.

18. $x^2 + y^2 - 4x - 6y + 8 = 0$

Equation: _____

Center: _____

Radius: _____



Factor out the GCF. Remember if the first term is positive to factor out the negative.

19. $15x^4 - 20x^2 + 5$

20. $-12x^2y^3 + 36xy^4 - 18xy$

21. $3x^3 + 9x^2 - 12$