Name _____ Class _____ Date _____

# Practice

*Form G*

## Circles in the Coordinate Plane

**Write an equation of a circle with the given center and radius. Check your answers.**

**1.** center $(0, 0)$, radius 3

**2.** center $(0, 1)$, radius 2

**3.** center $(-1, 0)$, radius 6

**4.** center $(2, 0)$, radius 1

**5.** center $(1, -5)$, radius 2.5

**6.** center $(2, 3)$, diameter 1

**Write an equation for each translation.**

**7.** $x^2 + y^2 = 9$; right 4 and down 2

**8.** $x^2 + y^2 = 12$; left 2 and up 5

**9.** $x^2 + y^2 = 49$; right 1 and up 7

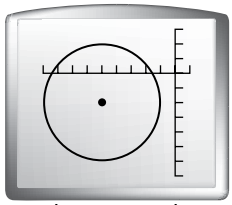
**10.** $x^2 + y^2 = 1$; right 5 and up 5

**11.** $x^2 + y^2 = 25$; up 10

**12.** $x^2 + y^2 = 36$; left 8 and down 6

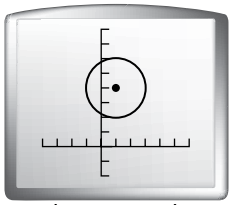
**Write an equation for each circle. Each interval represents one unit.**

**13.**



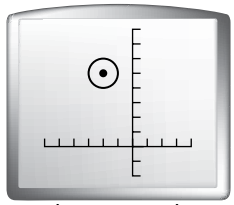
*x* scale = 1 *y* scale = 1

**14.**



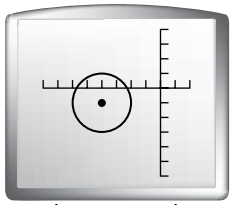
*x* scale = 1 *y* scale = 1

**15.**



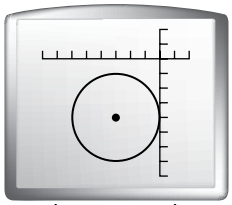
*x* scale = 1 *y* scale = 1

**16.**



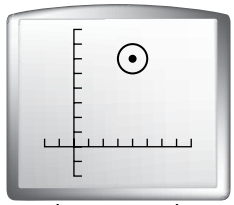
*x* scale = 1 *y* scale = 1

**17.**



*x* scale = 1 *y* scale = 1

**18.**



*x* scale = 1 *y* scale = 1

**For each equation, find the center and radius of the circle.**

**19.** $(x + 1)^2 + (y - 8)^2 = 1$

**20.** $x^2 + (y + 3)^2 = 9$

**21.** $(x + 3)^2 + (y + 1)^2 = 2$

**22.** $(x - 6)^2 + y^2 = 5$

**23.** $(x - 6)^2 + (y - 9)^2 = 4$

**24.** $x^2 + y^2 = 144$

Name _____ Class _____ Date _____

## Practice (continued) *Form G*

Circles in the Coordinate Plane

**Use the center and the radius to graph each circle.**

**25.** $(x + 9)^2 + (y - 2)^2 = 81$

**26.** $x^2 + (y + 3)^2 = 121$

**27.** $(x - 8)^2 + (y + 9)^2 = 64$

**28.** $(x + 8)^2 + y^2 = 49$

**29. Writing** Describe in words how to change the equation of a circle with the center at the origin and radius 5 to a circle with the center 3 units right and 2 units up.

**30. Open-Ended** Write an equation for a circle with center at the origin and an equation for another circle that is a translation of the first.

**31. Error Analysis** A classmate writes the equation of a circle with the center at $(8.5, 0)$ and diameter 25 as $x + (y - 8.5)^2 = 156.25$. Is she correct? Why or why not?

**32. Reasoning** How can you determine if the graph of the circle $(x + 8)^2 + (y + 9)^2 = 49$ is correctly drawn?