Find the center and radius of each circle. Then graph the circle.

See Prob

25. $(x + 7)^2 + (y - 5)^2 = 16$ **26.** $(x - 3)^2 + (y + 8)^2 = 100$

27. $(x + 4)^2 + (y - 1)^2 = 25$ **28.** $x^2 + y^2 = 36$

Public Safety Each equation models the position and range of a tornado alert siren. Describe the position and range of each.

29. $(x - 5)^2 + (y - 7)^2 = 81$ **30.** $(x + 4)^2 + (y - 9)^2 = 144$

Write the standard equation of each circle.

31.

32.

33.

34.

35.

36.
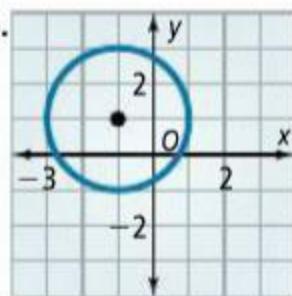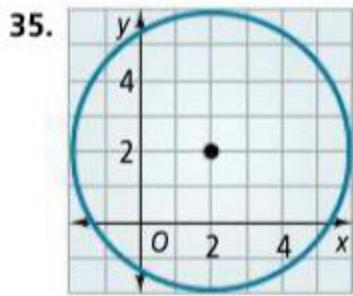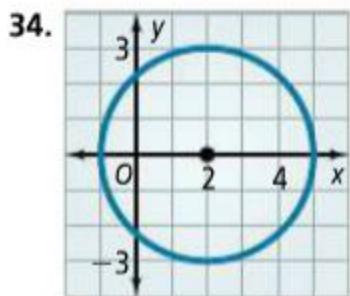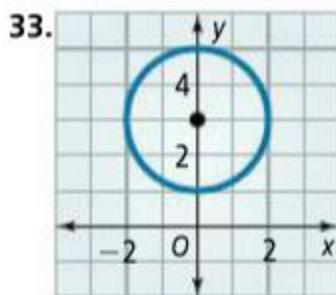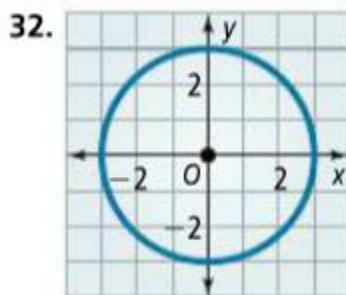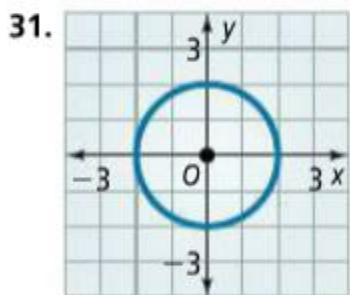
Write an equation of a circle with diameter $\overline{AB}$.

37. $A(0, 0), B(8, 6)$ **38.** $A(3, 0), B(7, 6)$ **39.** $A(1, 1), B(5, 5)$

40. Reasoning Describe the graph of $x^2 + y^2 = r^2$ when $r = 0$.

Determine whether each equation is the equation of a circle. Justify your answer.

41. $(x - 1)^2 + (y + 2)^2 = 9$ **42.** $x + y = 9$ **43.** $x + (y - 3)^2 = 9$