Practice 11-5  

Circles in the Coordinate Plane

Find the center and radius of each circle.

1. \(x^2 + y^2 = 36\)
2. \((x - 2)^2 + (y - 7)^2 = 49\)
3. \((x + 1)^2 + (y + 6)^2 = 16\)
4. \((x + 3)^2 + (y - 11)^2 = 12\)

Write the standard equation of each circle.

5. center \((0, 0)\); \(r = 7\)
6. center \((4, 3)\); \(r = 8\)
7. center \((5, 3)\); \(r = 2\)
8. center \((-5, 4)\); \(r = \frac{1}{2}\)
9. center \((-2, -5)\); \(r = \sqrt{2}\)
10. center \((-1, 6)\); \(r = \sqrt{3}\)

Write an equation for each circle.

11.  
   \[\begin{array}{c}
   \text{Graph each circle. Label its center, and state its radius.}
   
   17. \(x^2 + y^2 = 25\)
   18. \((x - 3)^2 + (y - 5)^2 = 9\)
   19. \((x + 2)^2 + (y + 4)^2 = 16\)
   20. \((x + 1)^2 + (y - 1)^2 = 36\)
   
   Write an equation for each circle with the given center that passes through the given point.
   
   21. center \((0, 0)\); point \((3, 4)\)
   22. center \((5, 9)\); point \((2, 9)\)
   
   23. center \((-4, -3)\); point \((2, 2)\)
   24. center \((7, -2)\); point \((-1, -6)\)
   
   Write an equation that describes the position and range of each circle.
   
   25. \(\bigcirc B\)
   26. \(\bigcirc F\)