

1) What is the equation of a circle? _____

Write the equation using the given characteristics.

2) Center (0, 0)

Radius: 7

3) Center (-2, 3)

Radius: $\frac{1}{2}$

4) Center (-2, 7)

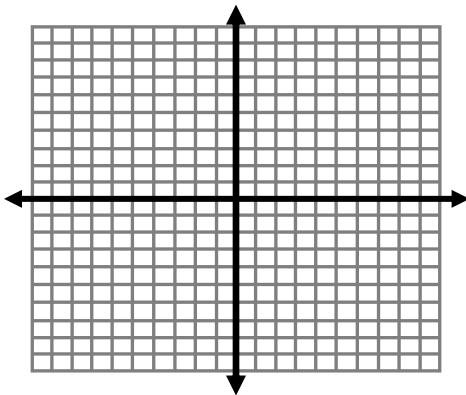
Radius: $\sqrt{5}$

5) Center (-4, 0)

Circumference: 16π

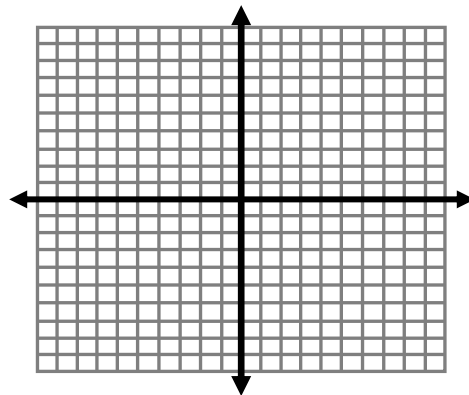
Graph each equation. Then determine the center and the radius of each circle.

6) $x^2 + y^2 = 5$



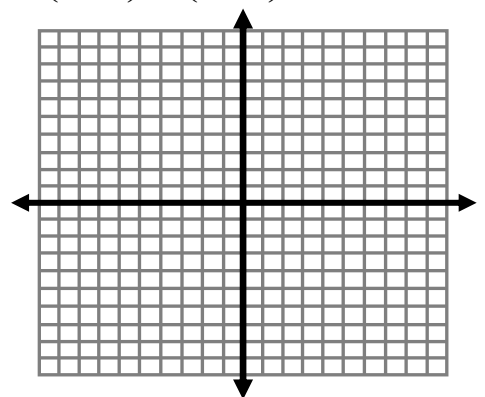
Center: _____ Radius: _____

7) $(x-5)^2 + (y+3)^2 = 20$



Center: _____ Radius: _____

8) $\left(x + \frac{5}{2}\right)^2 + \left(y - \frac{3}{2}\right)^2 = \frac{25}{9}$



Center: _____ Radius: _____

Write an equation of a circle into standard form. Use midpoint, point-slope or distance formula to determine the equation.

9) Center is at origin and passing through (-3, 4)

10) Center (3, -2) passing through (11, -2)

11) Endpoints of the diameter are (5, -3) and (-3, 7)

12) Center at (4, 2) and tangent to the x-axis

13) Write the equation of the line that is tangent to the circle $x^2 + y^2 = 17$, at the point (1, -4)

14) Write the equation of the line that is tangent to the circle $(x-1)^2 + (y+2)^2 = 25$, at the point (5, -5)

Write the equation in standard form, given the center and radius.

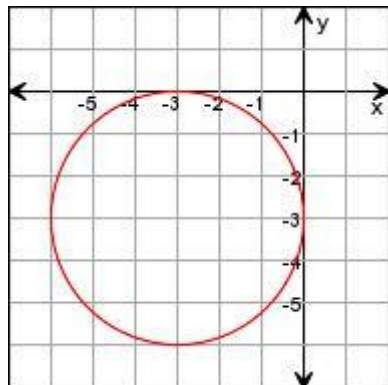
15) $C(2, 3), r = 2.5$

16) $C(4, 1), r = 3$

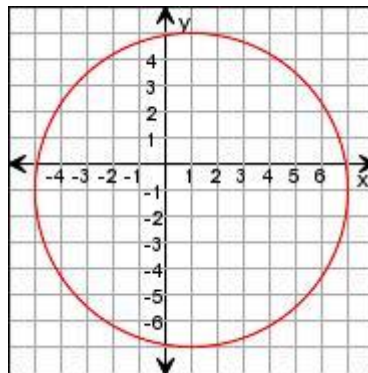
17) $C(-1, 2), r = \sqrt{2}$

Given these graphs, determine the equation in standard form. Answers may vary.

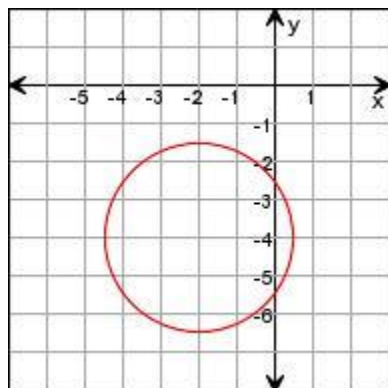
18)



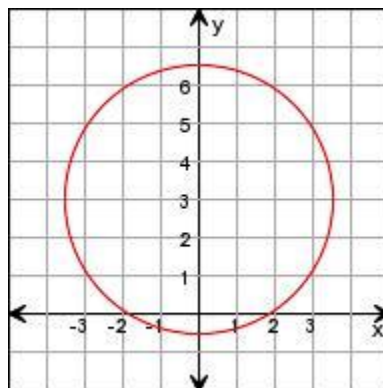
19)



20)



21)



22) A rock concert is located at the point $(-1, 1)$. The music can be heard up to 4 miles away. Use the equation of a circle to find the locations that are affected. Assume each unit of the coordinate plane represents 1 mile.

