

10-8 Practice

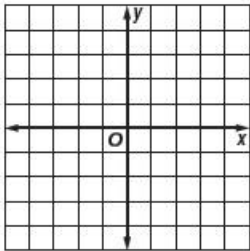
Equations of Circles

Write the equation of each circle.

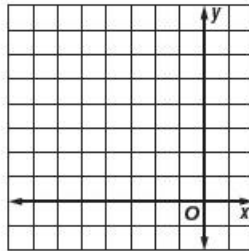
1. center at origin, radius 7
2. center at (0, 0), diameter 18
3. center at (-7, 11), radius 8
4. center at (12, -9), diameter 22
5. center at (-1, 8), passes through (9, 3)
6. center at (-3, -3), passes through (-2, 3)

For each circle with the given equation, state the coordinates of the center and the measure of the radius. Then graph the equation.

7. $x^2 + y^2 = 4$

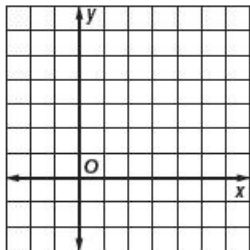


8. $(x + 3)^2 + (y - 3)^2 = 9$

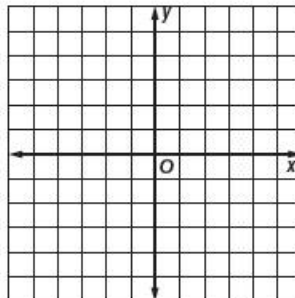


Write an equation of a circle that contains each set of points. Then graph the circle.

9. A(-2, 2), B(2, -2), C(6, 2)



10. R(5, 0), S(-5, 0), T(0, -5)



11. **EARTHQUAKES** When an earthquake strikes, it releases seismic waves that travel in concentric circles from the epicenter of the earthquake. Seismograph stations monitor seismic activity and record the intensity and duration of earthquakes. Suppose a station determines that the epicenter of an earthquake is located about 50 kilometers from the station. If the station is located at the origin, write an equation for the circle that represents one of the concentric circles of seismic waves of the earthquake.