

Learning Activity – Section 5.1 & 5.2 – Distance, Midpoint and Circles

Names: _____

For exercises 1 and 2, determine the center and radius of the circle.

1. $(x+3)^2 + \left(y - \frac{1}{2}\right)^2 = 16$

2. $x^2 + (y-2)^2 = 20$

center: _____

center: _____

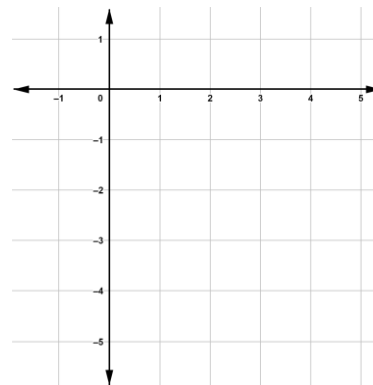
radius: _____

radius: _____

3. Use the information about a circle to write its equation in standard form. Then graph the circle.

Center: $(2, -3)$; Radius: $\sqrt{3}$

Equation in standard form: _____



4. The center of a circle is the point $(-3, 0)$ and another point on the circle is $(2, 1)$. Write the equation for the circle in standard form.

5. Write the equation in standard form. Identify the center and radius.

$$x^2 + y^2 + 8x - 4y - 7 = 0$$

6. Write the equation in standard form. Identify the center and radius.

$$6x^2 + 6y^2 - 18x - 36 = 0$$

7. Consider a line segment with endpoints $(-3, 4)$ and $(2, -4)$.

a. Find the length of the line segment.

b. Find the midpoint of the line segment.

c. If the line segment is a diameter of a circle, give the equation for the circle in standard form.