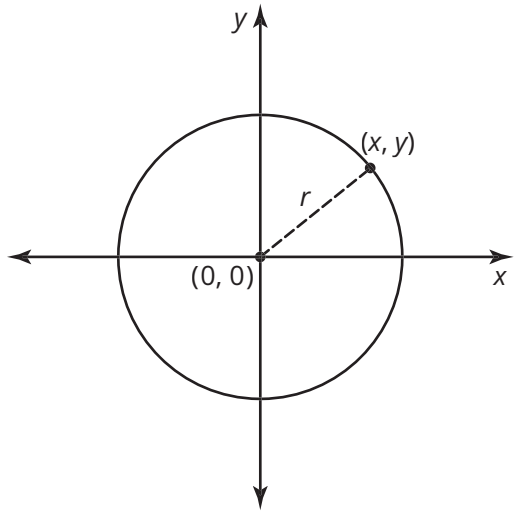
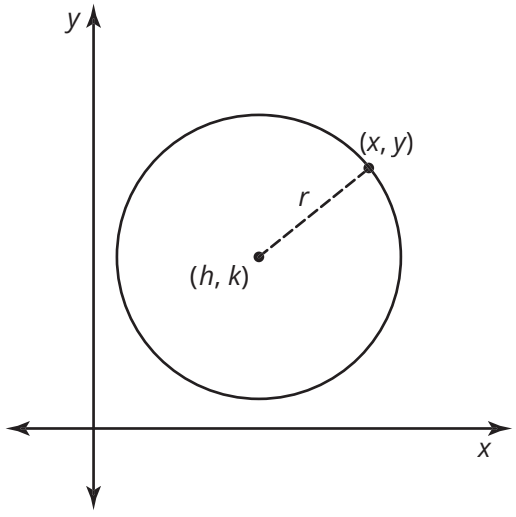


Assignment

Write

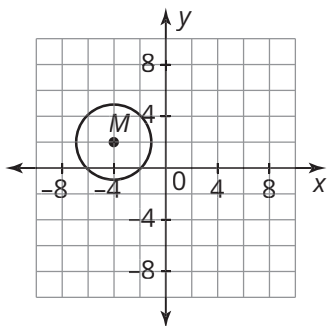
Describe how the graph of $(x - h)^2 + (y - k)^2 = r^2$ is related to the graph of $x^2 + y^2 = r^2$.

Remember

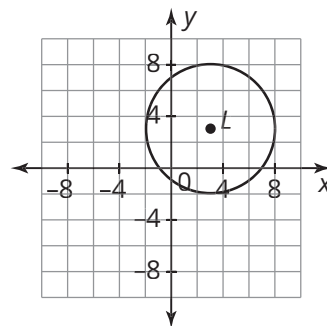
Circle with center at origin and radius r	Circle with center at (h, k) and radius r
	
Center: $(0, 0)$ Radius: r	Center: (h, k) Radius: r
$x^2 + y^2 = r^2$	$(x - h)^2 + (y - k)^2 = r^2$

Practice

- Write an equation in standard form given circle M .
- Write an equation in standard form given circle M .



- A circle with a center at $M(-4, 2)$ and a radius of 3.
- A circle with the same center as the circle M , but whose circumference is 20 times that of circle M .



- A circle with center at $L(3, 3)$ and a radius of 5.
- A circle with the same center as the circle L , but whose area is 20 times that of circle L .

3. Determine whether each equation represents a circle. If so, describe the location of the center and radius.

a. $x^2 + y^2 - 4x + 6y + 9 = 0$

b. $4x^2 + 4y^2 - 8x - 20y - 30 = 0$

c. $3x^2 + y^2 + 3x + 9y + 15 = 0$

Stretch

- Determine whether the point (1, 1) is inside, outside, or on the circle that is represented by the equation $x^2 + y^2 + 4x - 8y = 5$. Explain your reasoning.
- Determine the radius of the circle given the location of the center of the circle and a point on the circle. Then, write the equation of the circle in standard form.
 - A circle with a center at (0, 0) and the point (0, 3) on the circle
 - A circle with a center at (1, 1) and the point (1, 5) on the circle
 - A circle with a center at (-2, 5) and the point (-2, 7) on the circle

Review

- Determine the inverse of $y = (x + 9)^2$.
- The table shows temperatures recorded during a winter storm. Determine the regression equation that best models the data set. Include the correlation coefficient.
- Rewrite each expression. Show your work.
 - $6i(-7 - i)$
 - $(5 - 12i) - (3 + 2i)$
- Determine the perimeter of each figure. The sides are measured in inches.

Time Since Start of Snow Storm (hours)	Temperature (°F)
1	25
2	22
3	18
4	16
5	12
6	13
7	15
8	20
9	23
10	27

