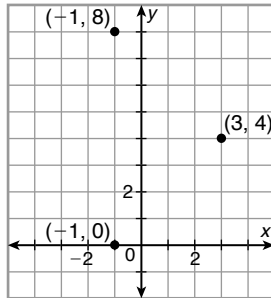


**LESSON**

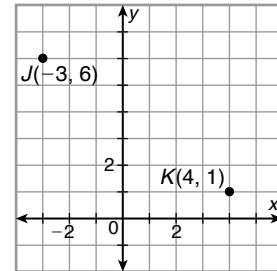
**Problem Solving**

**11-7** *Circles in the Coordinate Plane*

1. Write the equation of the circle that contains the points graphed below.



2. Find the area of a circle that has center  $J$  and passes through  $K$ . Express your answer in terms of  $\pi$ .



Choose the best answer.

3. An English knot garden has hedges planted to form geometric shapes. A blueprint of a knot garden contains three circular hedges as described in the table. Flowers are to be planted in the space that is within all three circles. Which is a point that could be planted with flowers?

Circular Hedge	Center	Radius
A	(3, 2)	3 ft
B	(7, 2)	4 ft
C	(5, -1)	3 ft

- A** (7, 1)                      **C** (0, 5)  
**B** (5, 1)                      **D** (0, 0)

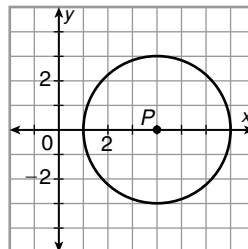
4. Which of these circles intersects the circle that has center (0, 6) and radius 1?

- F**  $(x - 5)^2 + (y + 3)^2 = 4$   
**G**  $(x - 4)^2 + (y - 3)^2 = 9$   
**H**  $(x + 5)^2 + (y + 1)^2 = 16$   
**J**  $(x + 1)^2 + (y - 4)^2 = 4$

5. The center of  $\odot S$  is (9, 2), and the radius of the circle is 5 units. Which is a point on the circle?

- A** (4, 2)                      **C** (9, 4)  
**B** (14, 0)                      **D** (9, -5)

6. Which is an equation for a circle that has the same center as  $\odot P$  but has a circumference that is four times as great?



- F**  $(x - 4)^2 + y^2 = 36$   
**G**  $(x - 4)^2 + y^2 = 144$   
**H**  $x^2 + (y - 4)^2 = 36$   
**J**  $x^2 + (y - 4)^2 = 144$

7. The Maxair amusement park ride consists of a circular ring that holds 50 riders. Suppose that the center of the ride is at the origin and that one of the riders on the circular ring is at (16, 15.1). If one unit on the coordinate plane equals 1 foot, which is a close approximation of the circumference of the ride?

- A** 22 ft                      **C** 138 ft  
**B** 44 ft                      **D** 1521 ft