**Directions: Use the graph for problems 1 – 4.**
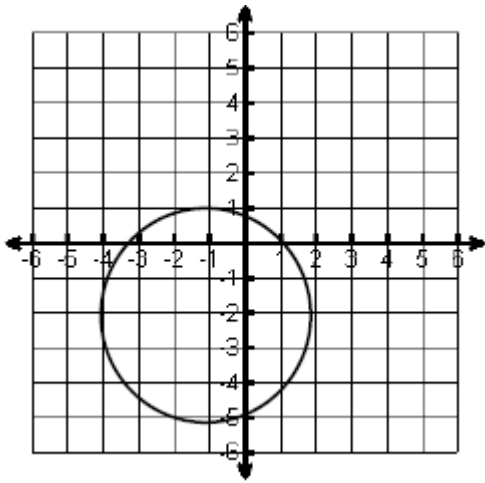


1) What is the center?

2) What is the radius?

3) What is the equation of the circle in *standard* form?

4) What is the equation of the circle in *general* form?

**Directions: Find each equation.**

5) Given a center of (4, –5) and a diameter of 8, written in *standard* form

6) Given the center of (4, 0) and a radius of $\sqrt{15}$ written in *standard* form

7) Given the general form of the equation $x^2 + y^2 - 4x + 5y - 8 = 0$, written in *standard* form

8) Given the center of (–2, 1) and another point on the circle at (4, 9), written in *standard* form

**Directions: Find each equation.**

9) Given the center ( –6, –1) and a tangent line of x = –3, written in *general* form

10) Given the general form of the equation $5x^2 + 5y^2 + 30x + 40y - 30 = 0$, written in *standard* form

**Directions: Use the given equation to solve each set of problems.**

Equation: $(x + 6)^2 + (y - 5)^2 = 196$

11) Find the center.

12) Find the radius.

13) What is the *area* of this circle?

Equation: $x^2 + y^2 - 6x + 10y - 15 = 0$

14) Find the center.

15) Find the radius.

16) What is the *circumference* of this circle?

**Directions: Solve each problem.**

17) A line segment has a midpoint of (3, –5) and an endpoint of (5, 1). What is the ordered pair that represents the other endpoint of the segment?
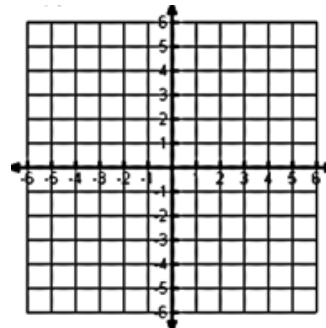
18) What is the ordered pair that represents coordinate B, if $\overline{AC}$ is partitioned by B at a ratio of 2:3 for the coordinates A(5, –1) and C(0, 9)?

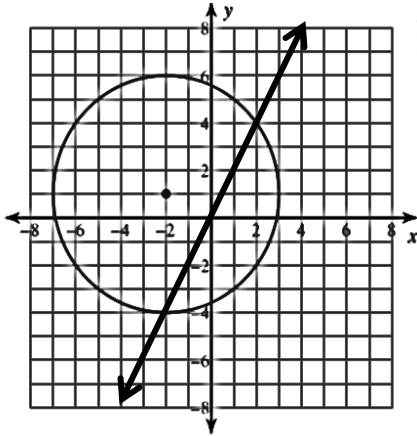**Directions: Graph the circle.**

19) $(x - 2)^2 + (y - 3)^2 = 1$
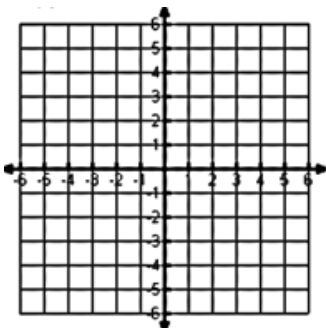


20) $x^2 + y^2 - 8x + 2y + 13 = 0$

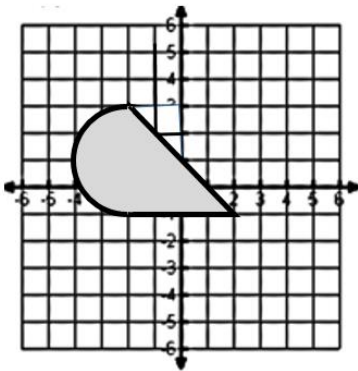**Direction: Use the graph below to answer questions 21 – 22.**



21) What is the system of equations that represents the given graph?

22) What is the solution(s) to this system of equations?

**Directions: Solve each problem.**

23) What is the TOTAL distance around the given shape?



24) A new ride at Six Flags consists of a ring that holds 50 riders. If the center of this ring is at the origin and one of the riders is on the circular ring at (16, 15.1), what is the distance the rider travels in one complete revolution of the circle if each unit on the coordinate plane is equivalent to 2 feet?