

Circles with Coordinates

NTI: Day # 9

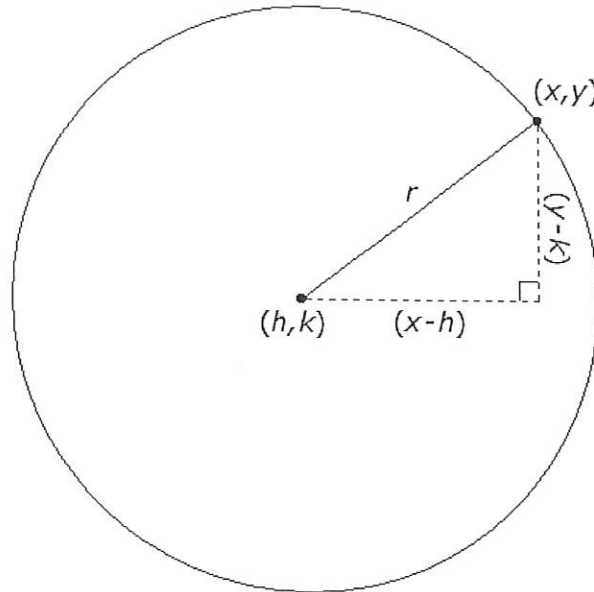
B.

Question 1 .

Consider a circle centered at $C(5,-6)$. If the point $P(0,0)$ lies on the circle, then which of the following points also lies on the circle?

- A. $(1, 2)$
- B. $(5 + 2\sqrt{5}, -6 - 2\sqrt{10})$
- C. $(-2, -6 + \sqrt{12})$
- D. $(5 + \sqrt{11}, 1)$

Question 2 .



If $(x - h) = 4$ and $(y - k) = 3$, what is the radius of the circle above?

- A. 1
- B. 5
- C. 25
- D. 7

Question 3 .

What is the radius of the circle given by the equation below?

$$x^2 + 2x + y^2 - 2y - 98 = 0$$

- A. 40
- B. 100
- C. 20
- D. 10

Question 4 .

What is the center of the circle given by the equation below?

$$x^2 + 4x + y^2 - 2y - 76 = 0$$

- A. (-2 , 1)
- B. (2 , 1)
- C. (2 , -1)
- D. (-2 , -1)

Question 5 .

What is the center of the circle given by the equation below?

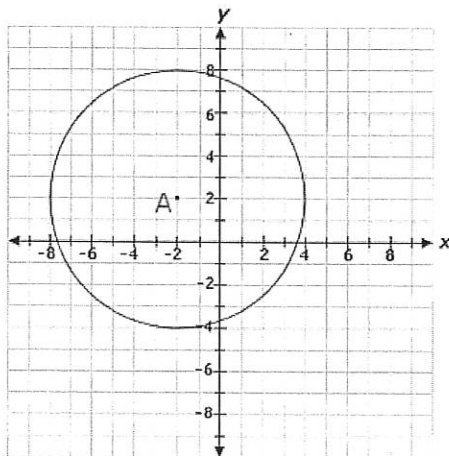
$$x^2 - 8x + y^2 + 6y + 24 = 0$$

- A. (4 , 3)
- B. (4 , -3)
- C. (-4 , -3)
- D. (-4 , 3)

Question 6 .

Directions: Type the correct answer in the box. Use numerals instead of words.

The ratio of the areas of circle A to circle B is 4:1. The center of circle B is at (2,3), and circle A is shown on the graph below.



A point on circle B with integer coordinates is ().

Question 7 .

What is the center of the circle given by the equation below?

$$x^2 - 6x = -y^2 + 14y + 6$$

- A. (-3 , 7)
- B. (3 , 7)
- C. (3 , -7)
- D. (-3 , -7)

Question 8 .

Rewrite the following equation in the center-radius form of the equation of a circle.

$$x^2 - 6x + y^2 - 8y + 24 = 0$$

- A. $(x - 5)^2 + (y - 3)^2 = 1$
- B. $(x - 6)^2 + (y - 8)^2 = 1$
- C. $(x - 4)^2 + (y - 6)^2 = 1$
- D. $(x - 3)^2 + (y - 4)^2 = 1$

Question 9 .

Rewrite the following equation in the center-radius form of the equation of a circle.

$$x^2 + 4x = -y^2 - 18y - 49$$

- A. $(x - 9)^2 + (y - 2)^2 = 36$
- B. $(x + 9)^2 + (y + 2)^2 = 36$
- C. $(x - 2)^2 + (y - 9)^2 = 36$
- D. $(x + 2)^2 + (y + 9)^2 = 36$

Question 10 .

What is the radius of the circle given by the equation below?

$$x^2 + 6x = -y^2 + 16y - 9$$

- A. 16
- B. 4
- C. 8
- D. 64

Question 11 .

Directions: Drag each tile to the correct box.

A set of circle equations is given. Find the coordinates of the center of each circle. Order the circles from greatest to least y -coordinate.

Circle 1 $x^2 + y^2 - 4x + 2y - 31 = 0$

Circle 2 $x^2 + y^2 - 4x + 10y + 20 = 0$

Circle 3 $x^2 + y^2 - 8x - 10y + 5 = 0$

Circle 4 $x^2 + y^2 - 6x - 2y - 6 = 0$

Circle 5 $x^2 + y^2 - 8x + 6y - 24 = 0$

Circle 1

Circle 5

Circle 2

Circle 3

Circle 4

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Question 12 .

What is the radius of the circle given by the equation below?

$$x^2 - 6x + y^2 - 16y + 57 = 0$$

- A. 8
- B. 16
- C. 4
- D. 2

Question 13 .

What is the center of the circle given by the equation below?

$$x^2 - 18x + y^2 + 16y = -129$$

- A. (9, -8)
- B. (-9, -8)
- C. (-9, 8)
- D. (9, 8)

Question 14 .

What is the center of the circle given by the equation below?

$$x^2 + 12x + y^2 + 14y = -69$$

- A. (-6 , 7)
- B. (6 , -7)
- C. (6 , 7)
- D. (-6 , -7)

Question 15 .

What is the equation of a circle with center (-4,-5) and radius 4?

- A. $(x - 4)^2 + (y - 5)^2 = 4$
- B. $(x + 4)^2 + (y + 5)^2 = 4$
- C. $(x - 4)^2 + (y - 5)^2 = 16$
- D. $(x + 4)^2 + (y + 5)^2 = 16$

Question 16 .

What is the radius of the circle given by the equation below?

$$x^2 - 16x + y^2 + 16y = -103$$

- A. 5
- B. 25
- C. 10
- D. 2.5

Question 17 .

Rewrite the following equation in the center-radius form of the equation of a circle.

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

- A. $(x - 2)^2 + (y + 1)^2 = 1$
- B. $(x - 4)^2 + y^2 = 1$
- C. $(x - 3)^2 + (y + 3)^2 = 1$
- D. $(x - 4)^2 + (y + 2)^2 = 1$

Question 18 .

What is the radius of the circle given by the equation below?

$$x^2 - 12x + y^2 - 12y = -47$$

- A. 10
- B. 5
- C. 2.5
- D. 25

Question 19 .

Rewrite the following equation in the center-radius form of the equation of a circle.

$$x^2 + 14x + y^2 - 14y = -73$$

- A. $(x - 7)^2 + (y + 7)^2 = 25$
- B. $(x + 7)^2 + (y - 8)^2 = 25$
- C. $(x + 9)^2 + (y - 6)^2 = 25$
- D. $(x + 7)^2 + (y - 7)^2 = 25$

Question 20 .

Consider a circle centered at $C(-2,-4)$. If the point $P(1,-1)$ lies on the circle, then which of the following points also lies on the circle?

- A. $(-2, -\sqrt{18})$
- B. $(-2 + \sqrt{18}, -4)$
- C. $(\sqrt{18}, -4)$
- D. $(-2, 4 + \sqrt{18})$