

G.G.73: Equations of Circles: Find the center and radius of a circle, given the equation of the circle in center-radius form

- 1 What are the coordinates of the center of the circle represented by the equation $(x + 3)^2 + (y - 4)^2 = 25$?
 - 1) (3,4)
 - 2) (3,-4)
 - 3) (-3,4)
 - 4) (-3,-4)
- 2 What are the center and the radius of the circle whose equation is $(x - 3)^2 + (y + 3)^2 = 36$?
 - 1) center = (3,-3); radius = 6
 - 2) center = (-3,3); radius = 6
 - 3) center = (3,-3); radius = 36
 - 4) center = (-3,3); radius = 36
- 3 A circle has the equation $(x + 1)^2 + (y - 3)^2 = 16$. What are the coordinates of its center and the length of its radius?
 - 1) (-1,3) and 4
 - 2) (1,-3) and 4
 - 3) (-1,3) and 16
 - 4) (1,-3) and 16
- 4 In a circle whose equation is $(x - 1)^2 + (y + 3)^2 = 9$, the coordinates of the center and length of its radius are
 - 1) (1,-3) and $r = 81$
 - 2) (-1,3) and $r = 81$
 - 3) (1,-3) and $r = 3$
 - 4) (-1,3) and $r = 3$
- 5 What are the coordinates of the center and the length of the radius of the circle whose equation is $(x + 1)^2 + (y - 5)^2 = 16$?
 - 1) (1,-5) and 16
 - 2) (-1,5) and 16
 - 3) (1,-5) and 4
 - 4) (-1,5) and 4
- 6 A circle has the equation $(x - 2)^2 + (y + 3)^2 = 36$. What are the coordinates of its center and the length of its radius?
 - 1) (-2,3) and 6
 - 2) (2,-3) and 6
 - 3) (-2,3) and 36
 - 4) (2,-3) and 36
- 7 What are the center and the radius of the circle whose equation is $(x - 5)^2 + (y + 3)^2 = 16$?
 - 1) (-5,3) and 16
 - 2) (5,-3) and 16
 - 3) (-5,3) and 4
 - 4) (5,-3) and 4
- 8 The equation of a circle is $x^2 + (y - 7)^2 = 16$. What are the center and radius of the circle?
 - 1) center = (0,7); radius = 4
 - 2) center = (0,7); radius = 16
 - 3) center = (0,-7); radius = 4
 - 4) center = (0,-7); radius = 16
- 9 The center and radius of the given circle $(x - 3)^2 + (x + 8)^2 = 39$ are:
 - 1) (3,-8), $r = 39$
 - 2) (-3,-8), $r = \sqrt{39}$
 - 3) (-3,8), $r = \sqrt{39}$
 - 4) (3,-8), $r = \sqrt{39}$
- 10 A circle is represented by the equation $x^2 + (y + 3)^2 = 13$. What are the coordinates of the center of the circle and the length of the radius?
 - 1) (0,3) and 13
 - 2) (0,3) and $\sqrt{13}$
 - 3) (0,-3) and 13
 - 4) (0,-3) and $\sqrt{13}$

- 11 The equation of a circle is $(x - 3)^2 + y^2 = 8$. The coordinates of its center and the length of its radius are
- $(-3, 0)$ and 4
 - $(3, 0)$ and 4
 - $(-3, 0)$ and $2\sqrt{2}$
 - $(3, 0)$ and $2\sqrt{2}$
- 12 The equation of a circle is $(x - 2)^2 + (y + 5)^2 = 32$. What are the coordinates of the center of this circle and the length of its radius?
- $(-2, 5)$ and 16
 - $(2, -5)$ and 16
 - $(-2, 5)$ and $4\sqrt{2}$
 - $(2, -5)$ and $4\sqrt{2}$
- 13 Circle O is represented by the equation $(x + 3)^2 + (y - 5)^2 = 48$. The coordinates of the center and the length of the radius of circle O are
- $(-3, 5)$ and $4\sqrt{3}$
 - $(-3, 5)$ and 24
 - $(3, -5)$ and $4\sqrt{3}$
 - $(3, -5)$ and 24
- 14 What are the center and radius of a circle whose equation is $(x - A)^2 + (y - B)^2 = C$?
- center = (A, B) ; radius = C
 - center = $(-A, -B)$; radius = C
 - center = (A, B) ; radius = \sqrt{C}
 - center = $(-A, -B)$; radius = \sqrt{C}
- 15 The center of a circle represented by the equation $(x - 2)^2 + (y + 3)^2 = 100$ is located in Quadrant
- I
 - II
 - III
 - IV
- 16 A circle with the equation $(x + 6)^2 + (y - 7)^2 = 64$ does *not* include points in Quadrant
- I
 - II
 - III
 - IV
- 17 Which equation of a circle will have a graph that lies entirely in the first quadrant?
- $(x - 4)^2 + (y - 5)^2 = 9$
 - $(x + 4)^2 + (y + 5)^2 = 9$
 - $(x + 4)^2 + (y + 5)^2 = 25$
 - $(x - 5)^2 + (y - 4)^2 = 25$
- 18 Which set of equations represents two circles that have the same center?
- $x^2 + (y + 4)^2 = 16$ and $(x + 4)^2 + y^2 = 16$
 - $(x + 3)^2 + (y - 3)^2 = 16$ and $(x - 3)^2 + (y + 3)^2 = 25$
 - $(x - 7)^2 + (y - 2)^2 = 16$ and $(x + 7)^2 + (y + 2)^2 = 25$
 - $(x - 2)^2 + (y - 5)^2 = 16$ and $(x - 2)^2 + (y - 5)^2 = 25$
- 19 Students made four statements about a circle.
- A: The coordinates of its center are $(4, -3)$.
- B: The coordinates of its center are $(-4, 3)$.
- C: The length of its radius is $5\sqrt{2}$.
- D: The length of its radius is 25.
- If the equation of the circle is $(x + 4)^2 + (y - 3)^2 = 50$, which statements are correct?
- A and C
 - A and D
 - B and C
 - B and D
- 20 A circle has the equation $(x - 3)^2 + (y + 4)^2 = 10$. Find the coordinates of the center of the circle and the length of the circle's radius.

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Answer Section

- 1 ANS: 3 REF: 060506b
 2 ANS: 1 REF: 080911ge
 3 ANS: 1 REF: 080404b
 4 ANS: 3 REF: 081502ge
 5 ANS: 4 REF: 011403ge
 6 ANS: 2 REF: 011203ge
 7 ANS: 4 REF: 061114ge
 8 ANS: 1 REF: 081009ge
 9 ANS: 4 REF: fall9917b
 10 ANS: 4 REF: 060922ge
 11 ANS: 4 REF: 061422ge
 12 ANS: 4 REF: 011318ge
 13 ANS: 1

$$r^2 = 48$$

$$r = \sqrt{48} = \sqrt{16} \cdot \sqrt{3} = 4\sqrt{3}$$

REF: 081412ge

- 14 ANS: 3 REF: fall0814ge
 15 ANS: 4 REF: 010620b
 16 ANS: 4 REF: 011426ge
 17 ANS: 1 REF: 061223ge
 18 ANS: 4 REF: 061319ge
 19 ANS: 3

$$r^2 = 50$$

$$r = \sqrt{50} = \sqrt{25} \sqrt{2} = 5\sqrt{2}$$

REF: 061515ge

- 20 ANS:
 center: (3, -4); radius: $\sqrt{10}$

REF: 081333ge