G.GPE.A.1: Equations of Circles 1b

1. What are the coordinates of the center of the circle represented by the equation 
   \((x + 3)^2 + (y - 4)^2 = 25\)?

2. What are the center and the radius of the circle whose equation is 
   \((x - 3)^2 + (y + 3)^2 = 36\)?

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?

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

5. What are the coordinates of the center and the length of the radius of the circle whose equation is 
   \((x + 1)^2 + (y - 5)^2 = 16\)?

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?

7. What are the center and the radius of the circle whose equation is \((x - 5)^2 + (y + 3)^2 = 16\)?

8. The equation of a circle is \(x^2 + (y - 7)^2 = 16\). What are the center and radius of the circle?

9. The center and radius of the given circle \((x - 3)^2 + (y + 8)^2 = 39\) are:

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?

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

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?

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

14. What are the center and radius of a circle whose equation is \((x - A)^2 + (y - B)^2 = C\)?
15 The center of a circle represented by the equation 
\((x - 2)^2 + (y + 3)^2 = 100\) is located in Quadrant 

16 A circle with the equation 
\((x + 6)^2 + (y - 7)^2 = 64\) does not include points in Quadrant 

17 Which equation of a circle will have a graph that 
lies entirely in the first quadrant? 
1) \((x - 4)^2 + (y - 5)^2 = 9\) 
2) \((x + 4)^2 + (y + 5)^2 = 9\) 
3) \((x + 4)^2 + (y + 5)^2 = 25\) 
4) \((x - 5)^2 + (y - 4)^2 = 25\) 

18 Which set of equations represents two circles that 
have the same center? 
1) \(x^2 + (y + 4)^2 = 16\) and \((x + 4)^2 + y^2 = 16\) 
2) \((x + 3)^2 + (y - 3)^2 = 16\) and 
\((x - 3)^2 + (y + 3)^2 = 25\) 
3) \((x - 7)^2 + (y - 2)^2 = 16\) and 
\((x + 7)^2 + (y + 2)^2 = 25\) 
4) \((x - 2)^2 + (y - 5)^2 = 16\) 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? 

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:
   $(-3, 4)$
   REF: 060506b

2. ANS:
   $\text{center} = (3, -3); \text{radius} = 6$
   REF: 080911ge

3. ANS:
   $(-1, 3)$ and 4
   REF: 080404b

4. ANS:
   $(1, -3)$ and $r = 3$
   REF: 081502ge

5. ANS:
   $(-1, 5)$ and 4
   REF: 011403ge

6. ANS:
   $(2, -3)$ and 6
   REF: 011203ge

7. ANS:
   $(5, -3)$ and 4
   REF: 061114ge

8. ANS:
   $\text{center} = (0, 7); \text{radius} = 4$
   REF: 081009ge

9. ANS:
   $(3, -8), r = \sqrt{39}$
   REF: fall9917b

10. ANS:
    $(0, -3) \text{ and } \sqrt{13}$
    REF: 060922ge

11. ANS:
    $(3, 0) \text{ and } 2\sqrt{2}$
    REF: 061422ge
12 ANS:  
(2, -5) and $4\sqrt{2}$  
REF: 011318ge

13 ANS:  
(−3, 5) and $4\sqrt{3}$  
$r^2 = 48$  
$r = \sqrt{48} = \sqrt{16 \cdot 3} = 4\sqrt{3}$  
REF: 081412ge

14 ANS:  
center = $(A, B)$; radius = $\sqrt{C}$  
REF: fall0814ge

15 ANS:  
IV  
REF: 010620b

16 ANS:  
IV  
REF: 011426ge

17 ANS: 1  
REF: 061223ge

18 ANS: 4  
REF: 061319ge

19 ANS:  
$B$ and $C$  
$r^2 = 50$  
$r = \sqrt{50} = \sqrt{25 \cdot 2} = 5\sqrt{2}$  
REF: 061515ge

20 ANS:  
center: $(3, -4)$; radius: $\sqrt{10}$  
REF: 081333ge