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

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 $(x-3)^2+(y+8)^2=39$ 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
1) $(-3,0)$ and 4
2) $(3,0)$ and 4
3) $(-3,0)$ and $2\sqrt{2}$
4) $(3,0)$ 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?
1) $(-2,5)$ and 16
2) $(2,-5)$ and 16
3) $(-2,5)$ and $4\sqrt{2}$
4) $(2,-5)$ 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
1) $(-3,5)$ and $4\sqrt{3}$
2) $(-3,5)$ and 24
3) $(3,-5)$ and $4\sqrt{3}$
4) $(3,-5)$ and 24

14 What are the center and radius of a circle whose equation is $(x-A)^2+(y-B)^2=C$?
1) center = (A,B); radius = C
2) center = $(-A,-B)$; radius = C
3) center = (A,B); radius = $\sqrt{C}$
4) 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
1) I
2) II
3) III
4) IV

16 A circle with the equation $(x+6)^2+(y-7)^2=64$ does *not* include points in Quadrant
1) I
2) II
3) III
4) IV

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?
1) *A* and *C*
2) *A* and *D*
3) *B* and *C*
4) *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