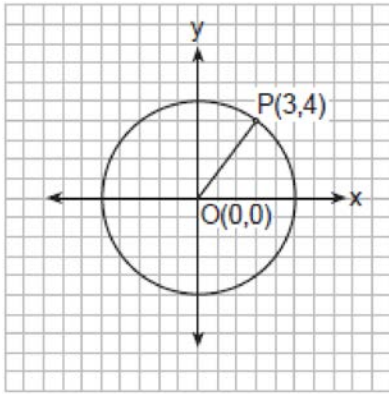
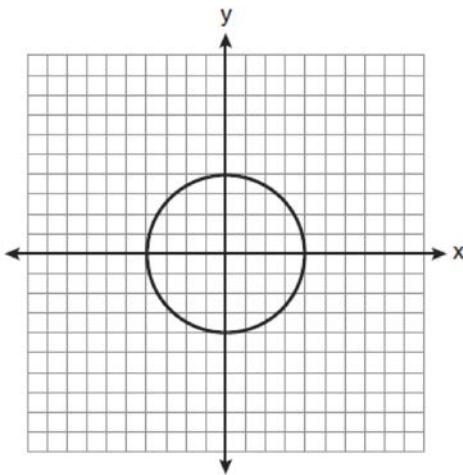


G.GPE.A.1: Equations of Circles 4

- 1 In the accompanying diagram, the center of circle O is $(0,0)$, and the coordinates of point P are $(3,4)$. If \overline{OP} is a radius, what is the equation of the circle?

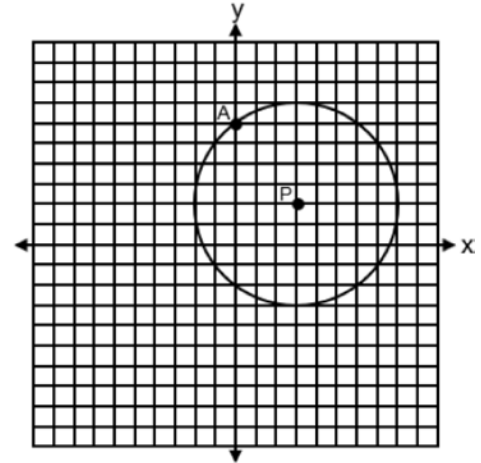


- 1) $x^2 + y^2 = 5$
 - 2) $x^2 + y^2 = 9$
 - 3) $x^2 + y^2 = 16$
 - 4) $x^2 + y^2 = 25$
- 2 What is an equation for the circle shown in the graph below?



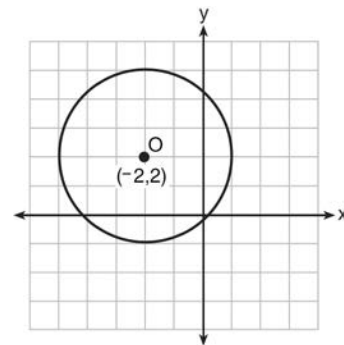
- 1) $x^2 + y^2 = 2$
- 2) $x^2 + y^2 = 4$
- 3) $x^2 + y^2 = 8$
- 4) $x^2 + y^2 = 16$

- 3 Circle P with center at $(3,2)$ and passing through $A(0,6)$ is graphed on the set of axes below.



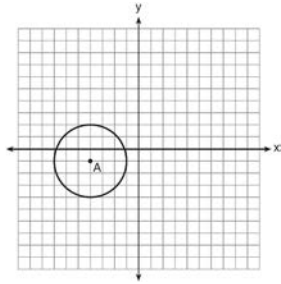
An equation of circle P is

- 1) $(x+3)^2 + (y+2)^2 = 5$
 - 2) $(x+3)^2 + (y+2)^2 = 25$
 - 3) $(x-3)^2 + (y-2)^2 = 5$
 - 4) $(x-3)^2 + (y-2)^2 = 25$
- 4 What is an equation of circle O shown in the graph below?



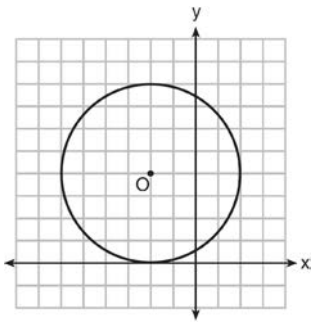
- 1) $(x+2)^2 + (y-2)^2 = 9$
- 2) $(x+2)^2 + (y-2)^2 = 3$
- 3) $(x-2)^2 + (y+2)^2 = 9$
- 4) $(x-2)^2 + (y+2)^2 = 3$

- 5 Which equation represents circle A shown in the diagram below?



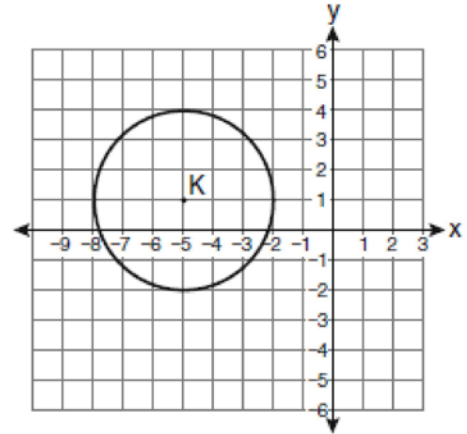
- 1) $(x - 4)^2 + (y - 1)^2 = 3$
- 2) $(x + 4)^2 + (y + 1)^2 = 3$
- 3) $(x - 4)^2 + (y - 1)^2 = 9$
- 4) $(x + 4)^2 + (y + 1)^2 = 9$

- 6 What is an equation of circle O shown in the graph below?



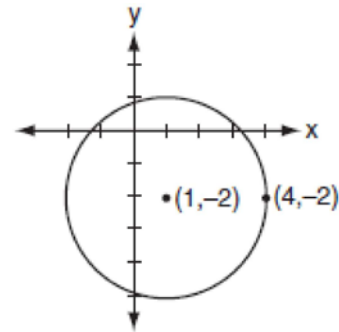
- 1) $(x - 2)^2 + (y + 4)^2 = 4$
- 2) $(x - 2)^2 + (y + 4)^2 = 16$
- 3) $(x + 2)^2 + (y - 4)^2 = 4$
- 4) $(x + 2)^2 + (y - 4)^2 = 16$

- 7 Which equation represents circle K shown in the graph below?



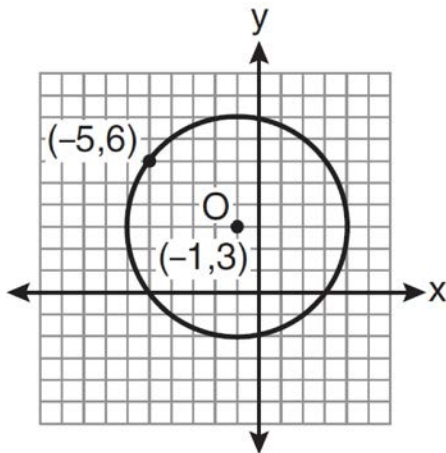
- 1) $(x + 5)^2 + (y - 1)^2 = 3$
- 2) $(x + 5)^2 + (y - 1)^2 = 9$
- 3) $(x - 5)^2 + (y + 1)^2 = 3$
- 4) $(x - 5)^2 + (y + 1)^2 = 9$

- 8 Which equation represents the circle shown in the accompanying graph?



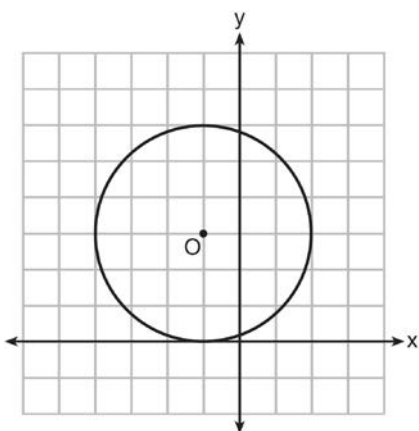
- 1) $(x - 1)^2 - (y + 2)^2 = 9$
- 2) $(x - 1)^2 + (y + 2)^2 = 9$
- 3) $(x + 1)^2 - (y - 2)^2 = 9$
- 4) $(x + 1)^2 + (y - 2)^2 = 9$

- 9 What is an equation of circle O shown in the graph below?



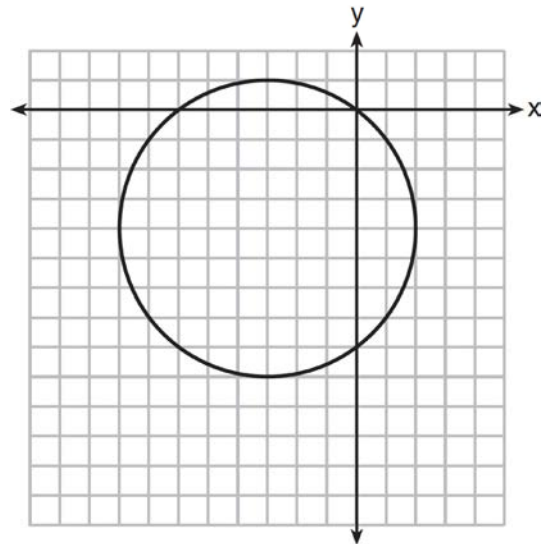
- 1) $(x + 1)^2 + (y - 3)^2 = 25$
- 2) $(x - 1)^2 + (y + 3)^2 = 25$
- 3) $(x - 5)^2 + (y + 6)^2 = 25$
- 4) $(x + 5)^2 + (y - 6)^2 = 25$

- 10 Circle O is graphed on the set of axes below. Which equation represents circle O ?



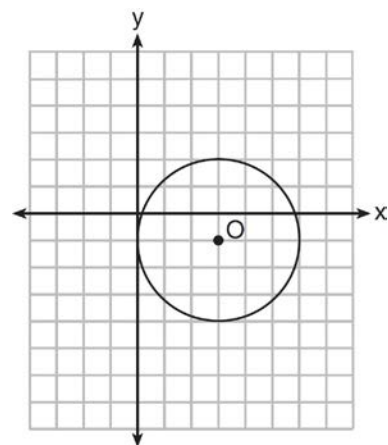
- 1) $(x + 1)^2 + (y - 3)^2 = 9$
- 2) $(x - 1)^2 + (y + 3)^2 = 9$
- 3) $(x + 1)^2 + (y - 3)^2 = 6$
- 4) $(x - 1)^2 + (y + 3)^2 = 6$

- 11 What is an equation of the circle shown in the graph below?



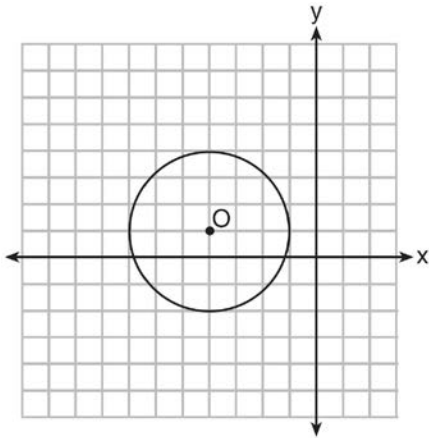
- 1) $(x - 3)^2 + (y - 4)^2 = 25$
- 2) $(x + 3)^2 + (y + 4)^2 = 25$
- 3) $(x - 3)^2 + (y - 4)^2 = 10$
- 4) $(x + 3)^2 + (y + 4)^2 = 10$

- 12 What is the equation for circle O shown in the graph below?



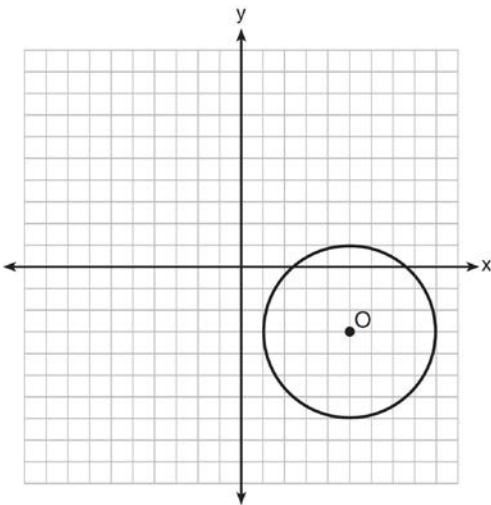
- 1) $(x - 3)^2 + (y + 1)^2 = 6$
- 2) $(x + 3)^2 + (y - 1)^2 = 6$
- 3) $(x - 3)^2 + (y + 1)^2 = 9$
- 4) $(x + 3)^2 + (y - 1)^2 = 9$

- 13 What is the equation of circle O shown in the diagram below?



- 1) $(x + 4)^2 + (y - 1)^2 = 3$
- 2) $(x - 4)^2 + (y + 1)^2 = 3$
- 3) $(x + 4)^2 + (y - 1)^2 = 9$
- 4) $(x - 4)^2 + (y + 1)^2 = 9$

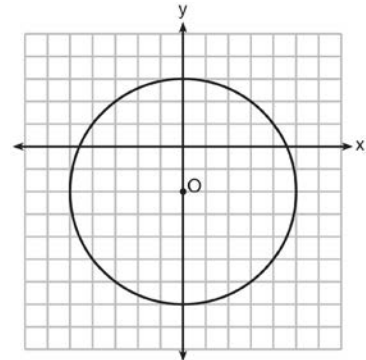
- 14 The diagram below is a graph of circle O .



Which equation represents circle O ?

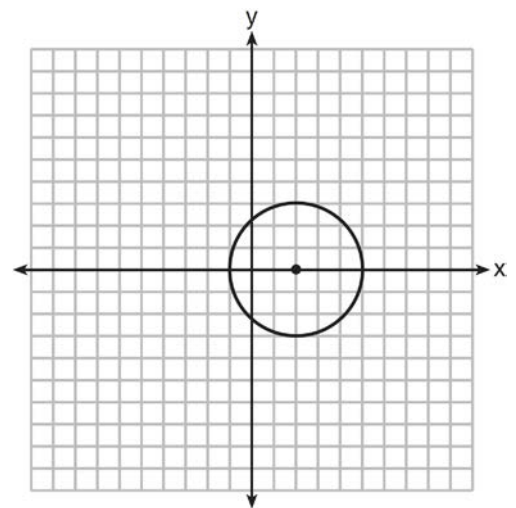
- 1) $(x - 5)^2 + (y + 3)^2 = 4$
- 2) $(x + 5)^2 + (y - 3)^2 = 4$
- 3) $(x - 5)^2 + (y + 3)^2 = 16$
- 4) $(x + 5)^2 + (y - 3)^2 = 16$

- 15 Which equation represents circle O shown in the graph below?



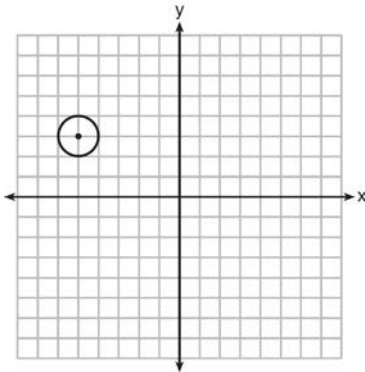
- 1) $x^2 + (y - 2)^2 = 10$
- 2) $x^2 + (y + 2)^2 = 10$
- 3) $x^2 + (y - 2)^2 = 25$
- 4) $x^2 + (y + 2)^2 = 25$

- 16 Which equation represents the circle shown in the graph below?



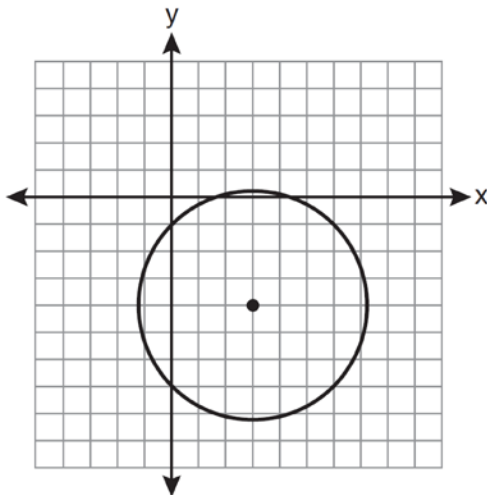
- 1) $(x - 2)^2 + y^2 = 9$
- 2) $(x + 2)^2 + y^2 = 9$
- 3) $(x - 2)^2 + y^2 = 3$
- 4) $(x + 2)^2 + y^2 = 3$

- 17 Which equation represents the circle shown in the graph below?



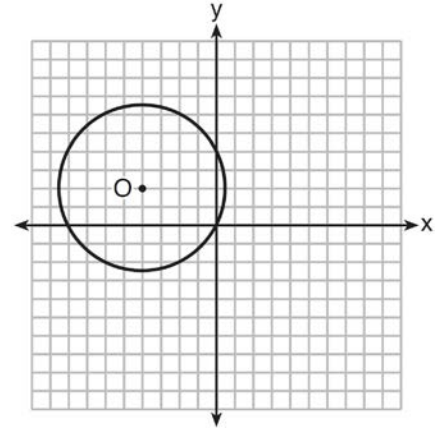
- 1) $(x - 5)^2 + (y + 3)^2 = 1$
- 2) $(x + 5)^2 + (y - 3)^2 = 1$
- 3) $(x - 5)^2 + (y + 3)^2 = 2$
- 4) $(x + 5)^2 + (y - 3)^2 = 2$

- 18 Which equation represents the circle shown in the graph below that passes through the point $(0, -1)$?



- 1) $(x - 3)^2 + (y + 4)^2 = 16$
- 2) $(x - 3)^2 + (y + 4)^2 = 18$
- 3) $(x + 3)^2 + (y - 4)^2 = 16$
- 4) $(x + 3)^2 + (y - 4)^2 = 18$

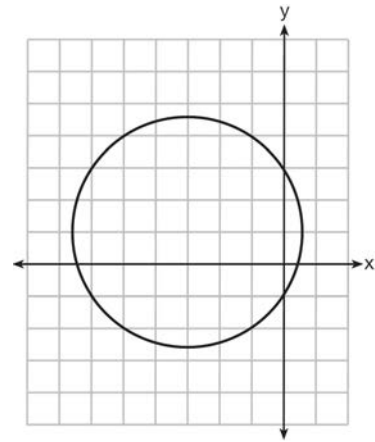
- 19 A circle with center O and passing through the origin is graphed below.



What is the equation of circle O ?

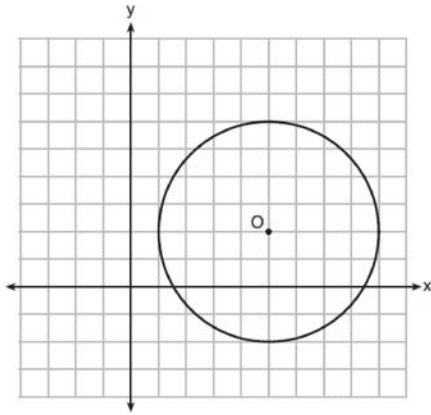
- 1) $x^2 + y^2 = 2\sqrt{5}$
- 2) $x^2 + y^2 = 20$
- 3) $(x + 4)^2 + (y - 2)^2 = 2\sqrt{5}$
- 4) $(x + 4)^2 + (y - 2)^2 = 20$

- 20 Which equation is represented by the graph below?



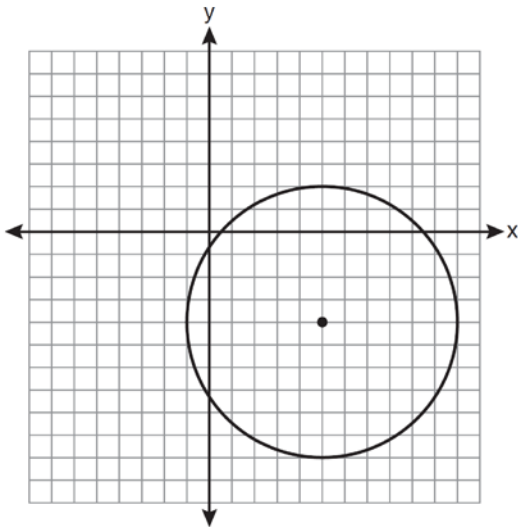
- 1) $(x - 3)^2 + (y + 1)^2 = 5$
- 2) $(x + 3)^2 + (y - 1)^2 = 5$
- 3) $(x - 1)^2 + (y + 3)^2 = 13$
- 4) $(x + 3)^2 + (y - 1)^2 = 13$

21 What is an equation of circle O shown in the graph below?

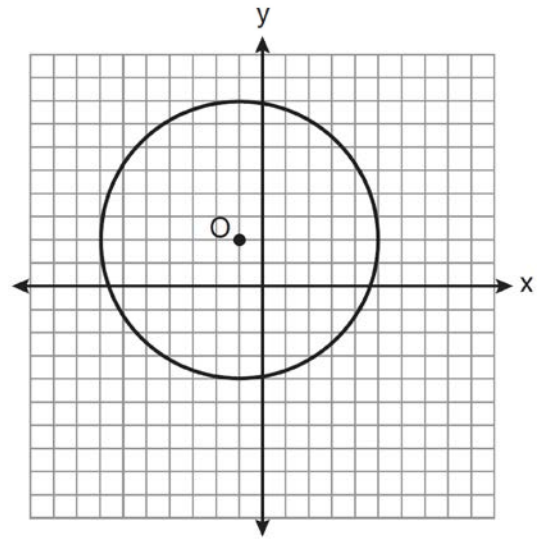


- 1) $x^2 + 10x + y^2 + 4y = -13$
- 2) $x^2 - 10x + y^2 - 4y = -13$
- 3) $x^2 + 10x + y^2 + 4y = -25$
- 4) $x^2 - 10x + y^2 - 4y = -25$

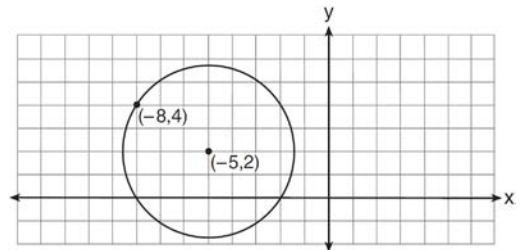
22 Write an equation of the circle graphed in the diagram below.



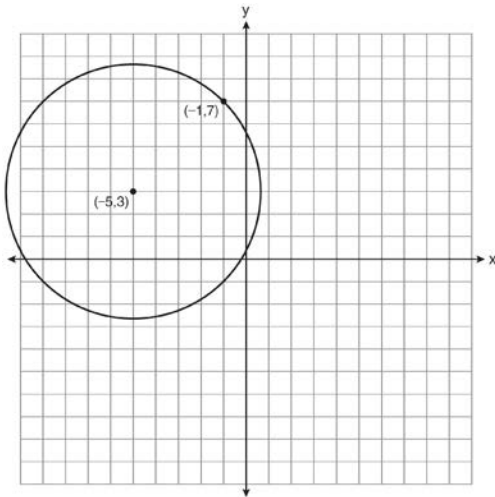
23 Write an equation for circle O shown on the graph below.



24 Write an equation of the circle shown in the diagram below.

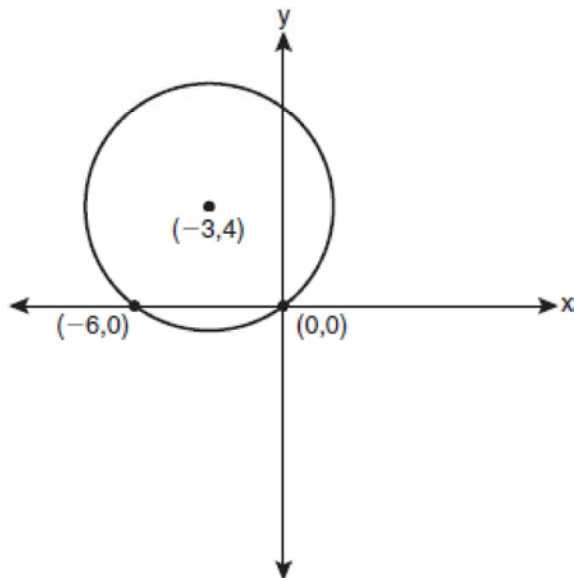


- 25 A circle shown in the diagram below has a center of $(-5, 3)$ and passes through point $(-1, 7)$.



Write an equation that represents the circle.

- 26 Write an equation of the circle shown in the graph below.



G.GPE.A.1: Equations of Circles 4 Answer Section

1 ANS: 4 REF: 080823a

2 ANS: 4

The radius is 4. $r^2 = 16$.

REF: 061014ge

3 ANS: 4 REF: spr2404geo

4 ANS: 1 REF: 011220ge

5 ANS: 4 REF: 011323ge

6 ANS: 4 REF: 081409ge

7 ANS: 2 REF: 080921ge

8 ANS: 2 REF: 010716b

9 ANS: 1 REF: 061110ge

10 ANS: 1 REF: 061408ge

11 ANS: 2 REF: 081212ge

12 ANS: 3 REF: 061309ge

13 ANS: 3 REF: 081312ge

14 ANS: 3 REF: 011514ge

15 ANS: 4 REF: 011415ge

16 ANS: 1 REF: 061510ge

17 ANS: 2 REF: 081520ge

18 ANS: 2 REF: 011126a2

19 ANS: 4 REF: 011513a2

20 ANS: 4 REF: 061318a2

21 ANS: 2

$$(x - 5)^2 + (y - 2)^2 = 16$$

$$x^2 - 10x + 25 + y^2 - 4y + 4 = 16$$

$$x^2 - 10x + y^2 - 4y = -13$$

REF: 061820geo

22 ANS:

$$(x - 5)^2 + (y + 4)^2 = 36$$

REF: 081132ge

23 ANS:

$$(x + 1)^2 + (y - 2)^2 = 36$$

REF: 081034ge

24 ANS:

$$r = \sqrt{2^2 + 3^2} = \sqrt{13}. (x + 5)^2 + (y - 2)^2 = 13$$

REF: 011234a2

25 ANS:

$$(x + 5)^2 + (y - 3)^2 = 32$$

REF: 081033a2

26 ANS:

$$(x + 3)^2 + (y - 4)^2 = 25$$

REF: fall0929a2