

Circles Test Review

Date _____ Period _____

Use the information provided to write the equation of each circle in STANDARD FORM

1) Center: $(0, 0)$
Radius: $7\sqrt{7}$

2) Center: $(-7, 4)$
Radius: 6

3) Center: $(6, -11)$
Area: 9π

4) Center: $(-8, -2)$
Area: 25π

5) Center: $(14, 8)$
Circumference: 4π

6) Center: $\left(\sqrt{182}, \frac{31}{2}\right)$
Circumference: 6π

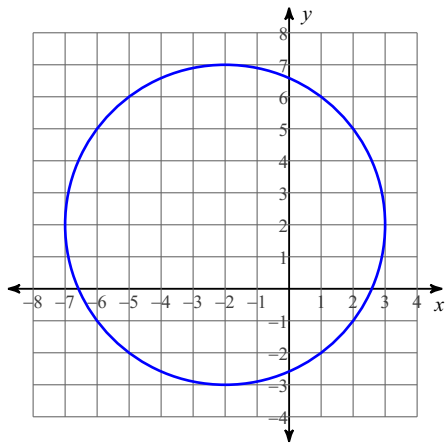
7) Center: $(3, 10)$
Point on Circle: $(2, 3)$

8) Center: $(-6, -15)$
Point on Circle: $(-8, -14)$

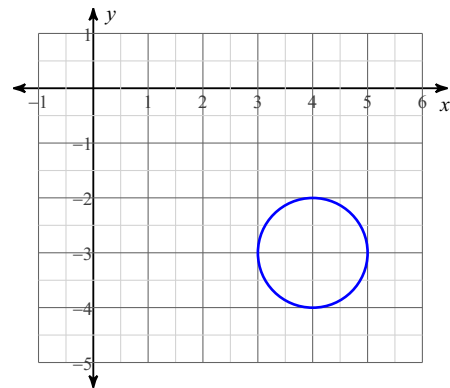
9) Ends of a diameter: $(13, 10)$ and $(1, -10)$

10) Ends of a diameter: $(-6, -5)$ and $(-14, -3)$

11)



12)



Use the information provided to write the equation of each circle in GENERAL FORM

13) Center: $(-2, 9)$
Radius: 7

14) Center: $(-10, 15)$
Radius: $\sqrt{11}$

Use the information provided to write the equation of each circle.

15) Ends of a diameter: $(13, -9)$ and $(-17, 1)$

- A) $(x + 3)^2 + (y - 3)^2 = 250$
- B) $(x + 2)^2 + (y + 4)^2 = 62500$
- C) $(x + 2)^2 + (y + 4)^2 = 250$
- D) $(x - 4)^2 + (y - 2)^2 = 250$

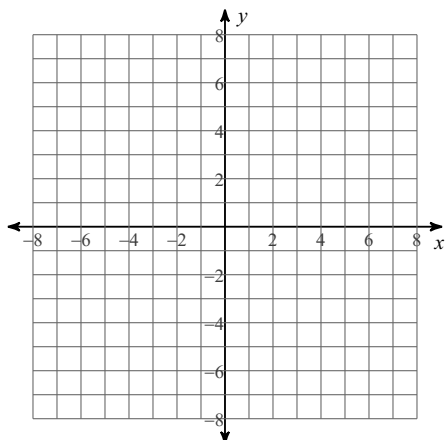
16) Center: $(11, -13)$

Point on Circle: $(9, -15)$

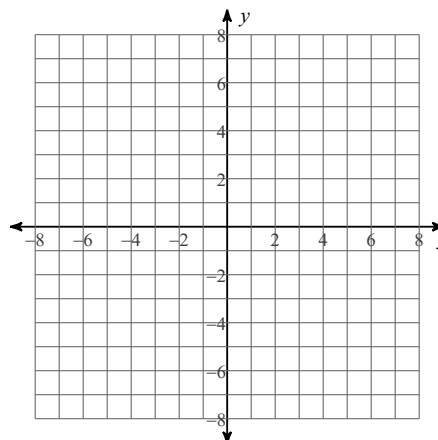
- A) $(x - 13)^2 + (y - 10)^2 = 8$
- B) $(x - 13)^2 + (y - 11)^2 = 8$
- C) $(x - 11)^2 + (y + 13)^2 = 8$
- D) $(x + 13)^2 + (y + 11)^2 = 8$

Identify the center and radius of each. Then sketch the graph.

17) $(x - 2)^2 + (y + 2)^2 = 4$



18) $(x - 2)^2 + (y + 4)^2 = 8$



Use the information provided to write the standard form equation of each circle. Tell the center and the radius.

19) $x^2 + y^2 + 2x - 18y + 66 = 0$

20) $x^2 - 8x - 6y = -y^2 + 11$

$$21) 2x^2 + 2y^2 - 20y = 36$$

$$22) 3x^2 + 3y^2 + 1092 = 78x + 84y$$

Prove whether the given point lies on, inside, or outside of the circle.

23) Center: origin, containing point $(-5, 0)$
Pt $(2, 5)$

24) Center: origin, containing point $(0, 8)$
Pt $(1, \sqrt{7})$

25) The point $(3, 1)$ lies on a circle whose equation is $(x - 8)^2 + (y - 1)^2 = r^2$. Which of the following must be the radius of the circle?

A) $\sqrt{5}$ B) 10 C) 25 D) 5

26) The point $(-12, -6)$ lies on a circle whose equation is $(x + 5)^2 + (y + 3)^2 = r^2$. Which of the following must be the radius of the circle?

A) $\sqrt{26}$ B) 26
C) $\sqrt{58}$ D) 58

27) Given the following equation of a circle $(x + 2)^2 + (y + 2)^2 = 9$ determine if the following points are in, on or outside the circle. Show all of your work and explain each answer.

$(-2, -2)$ $(2, 1)$ $(-3, -4)$ $(-2, 1)$

Identify the center and radius of each.

28) $x^2 + y^2 - 20x - 16y + 97 = 0$

- A) Center: $(-10, -8)$
Radius: $\sqrt{67}$
- B) Center: $(-10, 8)$
Radius: 2
- C) Center: $(10, 8)$
Radius: $\sqrt{67}$
- D) Center: $(6, -12)$
Radius: $\sqrt{67}$

29) $x^2 + y^2 - 32x + 6y + 261 = 0$

- A) Center: $(3, -16)$
Radius: 4
- B) Center: $(-16, 3)$
Radius: 4
- C) Center: $(16, -3)$
Radius: 2
- D) Center: $(3, 16)$
Radius: 2

30) $x^2 + y^2 - 28x + 32y + 448 = 0$

- A) Center: $(14, -16)$
Radius: 2
- B) Center: $(-13, 14)$
Radius: 2
- C) Center: $(-14, -16)$
Radius: 4
- D) Center: $(-14, 16)$
Radius: 2

31) $x^2 + y^2 - 14x + 14y + 55 = 0$

- A) Center: $(-5, 6)$
Radius: $\sqrt{43}$
- B) Center: $(-7, -7)$
Radius: 43
- C) Center: $(7, -7)$
Radius: $\sqrt{43}$
- D) Center: $(-7, -7)$
Radius: $\sqrt{43}$

32) $(x + 9)^2 + \left(y - \frac{13}{2}\right)^2 = 100$

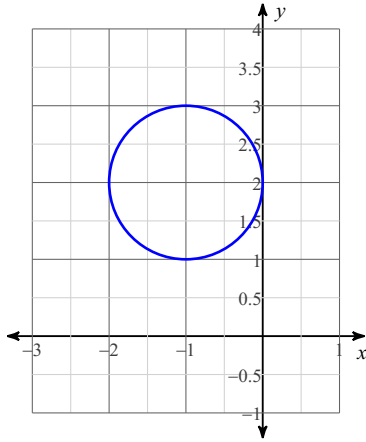
- A) Center: $\left(-9, \frac{13}{2}\right)$
Radius: 100
- B) Center: $\left(-9, \frac{13}{2}\right)$
Radius: 10
- C) Center: $\left(-9, -\frac{13}{2}\right)$
Radius: 100
- D) Center: $\left(-\frac{13}{2}, 9\right)$
Radius: 10

33) $(x + 16)^2 + (y - 8)^2 = 4$

- A) Center: $(10, 18)$
Radius: 2
- B) Center: $(-7, -16)$
Radius: 2
- C) Center: $(17, 10)$
Radius: 2
- D) Center: $(-16, 8)$
Radius: 2

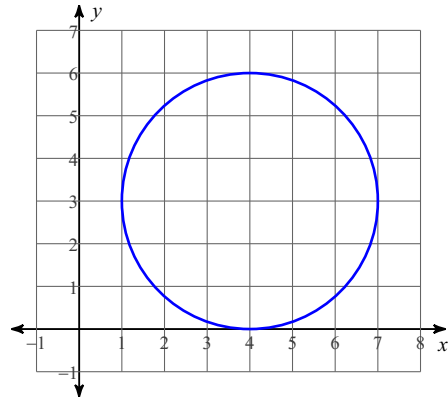
Use the information provided to write the general conic form equation of each circle.

34)



- A) $x^2 + y^2 + 2x + 4y = 0$
- B) $3x^2 + y^2 - 2x - 2y = 0$
- C) $x^2 + y^2 + 2x - 4y + 4 = 0$
- D) $x^2 + y^2 + 2x + 4y + 3 = 0$

35)



- A) $4x^2 - y^2 - 8x - 6y - 14 = 0$
- B) $x^2 + y^2 - 8x - 6y - 56 = 0$
- C) $x^2 + 2y^2 - 8x - 6y + 16 = 0$
- D) $x^2 + y^2 - 8x - 6y + 16 = 0$

36) $(x + 3)^2 + (y + 10)^2 = 36$

37) $(x + 5)^2 + y^2 = 144$