

Circle Formula No Calculator

9

$$(x - 6)^2 + (y + 5)^2 = 16$$

In the xy -plane, the graph of the equation above is a circle. Point P is on the circle and has coordinates $(10, -5)$. If \overline{PQ} is a diameter of the circle, what are the coordinates of point Q ?

- A) $(2, -5)$
- B) $(6, -1)$
- C) $(6, -5)$
- D) $(6, -9)$

Circle Formula With Calculator

24

Which of the following is an equation of a circle in the xy -plane with center $(0, 4)$ and a radius with endpoint $\left(\frac{4}{3}, 5\right)$?

- A) $x^2 + (y - 4)^2 = \frac{25}{9}$
- B) $x^2 + (y + 4)^2 = \frac{25}{9}$
- C) $x^2 + (y - 4)^2 = \frac{5}{3}$
- D) $x^2 + (y + 4)^2 = \frac{3}{5}$

24

$$x^2 + y^2 + 4x - 2y = -1$$

The equation of a circle in the xy -plane is shown above. What is the radius of the circle?

- A) 2
- B) 3
- C) 4
- D) 9

27

In the xy -plane, the graph of

$2x^2 - 6x + 2y^2 + 2y = 45$ is a circle. What is the radius of the circle?

- A) 5
- B) 6.5
- C) $\sqrt{40}$
- D) $\sqrt{50}$

Circle Formula With Calculator

29

A circle in the xy -plane has equation

$(x + 3)^2 + (y - 1)^2 = 25$. Which of the following points does NOT lie in the interior of the circle?

- A) $(-7, 3)$
- B) $(-3, 1)$
- C) $(0, 0)$
- D) $(3, 2)$

29

$$x^2 + 20x + y^2 + 16y = -20$$

The equation above defines a circle in the xy -plane. What are the coordinates of the center of the circle?

- A) $(-20, -16)$
- B) $(-10, -8)$
- C) $(10, 8)$
- D) $(20, 16)$

$$x^2 + (y + 1)^2 = 4$$

7. The graph of the equation above in the xy -plane is a circle. If the center of this circle is translated 1 unit up and the radius is increased by 1, which of the following is an equation of the resulting circle?

- A) $x^2 + y^2 = 5$
- B) $x^2 + y^2 = 9$
- C) $x^2 + (y + 2)^2 = 5$
- D) $x^2 + (y + 2)^2 = 9$

$$x^2 + 8x + y^2 - 6y = 24$$

8. The graph of the equation above in the xy -plane is a circle. What is the radius of the circle?