Equation of Circle

1. Write the equation for a circle with center $\left(\frac{1}{2}, \frac{3}{7}\right)$ and radius $\sqrt{13}$.

2. A circle is given by the equation $x^2 + y^2 = 100$. Which of the following points are on the circle?

a) $(0, 10)$

b) $(-8, 6)$

c) $(-10, -10)$

d) $(45, 55)$

3. Determine the center and radius of each circle.

$a)\ 3x^2 + 3y^2 = 75$

b) $2(x + 1)^2 + 2(y + 2)^2 = 10$

c) $4(x - 2)^2 + 4(y - 9)^2 - 64 = 0$

Equation of Circle

1. Write the equation for a circle with center $\left(\frac{1}{2}, \frac{3}{7}\right)$ and radius $\sqrt{13}$.

$$\left(x - \frac{1}{2}\right)^2 + \left(y - \frac{3}{7}\right)^2 = 13$$

2. A circle is given by the equation $x^2 + y^2 = 100$. Which of the following points are on the circle?

a) $(0, 10)$

This point is on the circle.

b) $(-8, 6)$

This point is on the circle.

c) $(-10, -10)$

This point is not on the circle.

d) $(45, 55)$

This point is not on the circle.

3. Determine the center and radius of each circle.

$a)\ 3x^2 + 3y^2 = 75$

The center is at $(0, 0)$, and the radius is 5.

b) $2(x + 1)^2 + 2(y + 2)^2 = 10$

The center is at $(-1, -2)$, and the radius is $\sqrt{5}$.

c) $4(x - 2)^2 + 4(y - 9)^2 - 64 = 0$

The center is at $(2, 9)$, and the radius is 4.