

PreCalculus: Circles

- 1. Solve the given quadratic equation using the square-root property.**

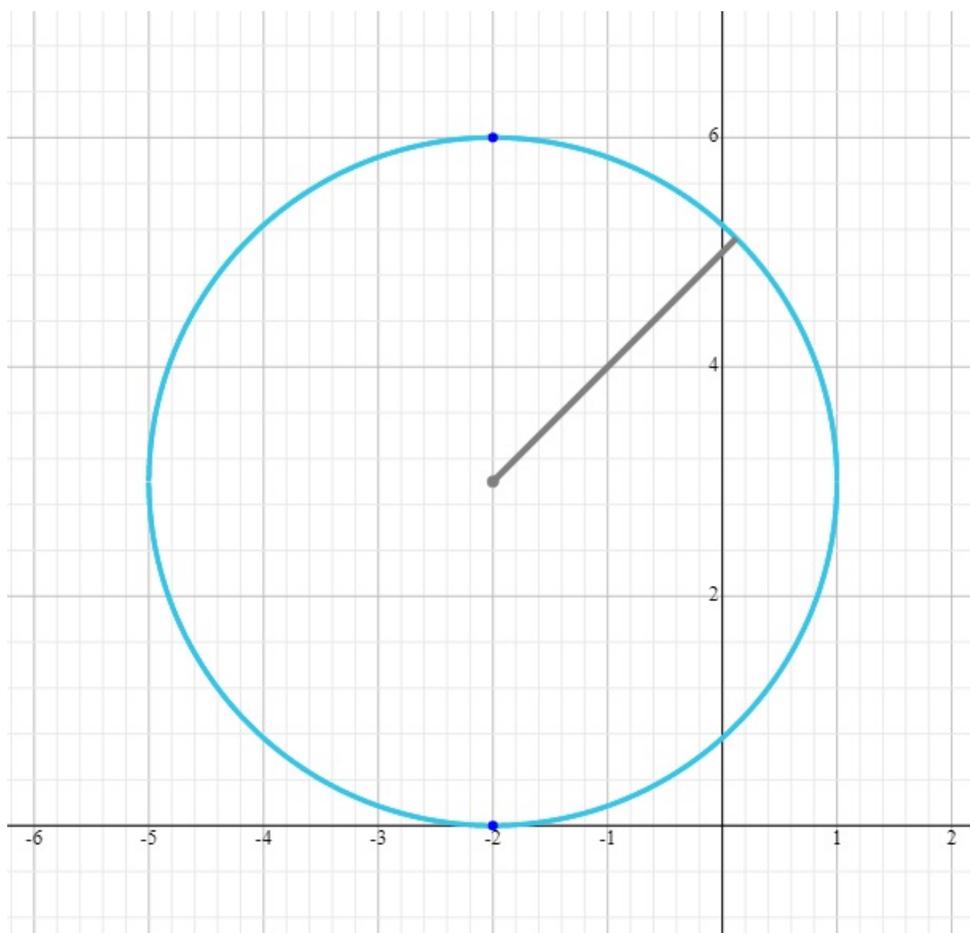
$$16 = (x + 4)^2$$

- 2. Find the center (h, k) and radius r of the given circle.**

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

- 3. Write the equation for a circle with center $(3, -2)$ and radius 9.**

- 4. Find the center (h, k) and radius r of the given circle. Give the equation of this circle in *standard form* $(x - h)^2 + (y - k)^2 = r^2$**



5. Write the *standard form* and the *general form* of the equation of the circle of radius $r = 3$ and center $(h, k) = (3, 0)$. Graph this circle.

6. Write the *standard form* and the *general form* of the equation of the circle of radius $r = \frac{1}{9}$ and center $(h, k) = (\frac{1}{9}, 0)$. Graph this circle.

7. Given the equation of the circle $x^2 + y^2 - 4x - 2y - 31 = 0$

(a) Find the center (h, k) and radius r of the given circle.

(b) Graph the circle.

(c) Find any existing intercepts.

8. Given the equation of the circle $x^2 + y^2 + 3x - 4y + 4 = 0$

(a) Find the center (h, k) and radius r of the given circle.

(b) Graph the circle.

(c) Find any existing intercepts.