

Graphing Circles Guided Notes

Standard Form of a Circle:

The center is at (h, k) and where r is $\overset{\text{radius}}{\downarrow}$ square root of r in the equation.

$$(x-h)^2 + (y-k)^2 = r^2$$

General Form of a Circle:

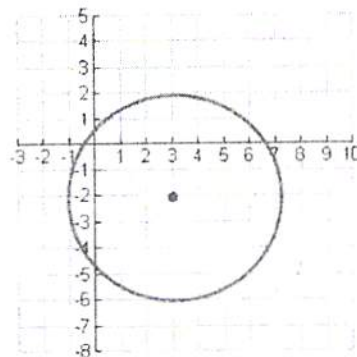
•
•

EX 1: Write an equation of a circle with center $(3, -2)$ and a radius of 4.

$$C: (3, -2)$$

$$r: 4$$

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



*change the signs of the center and square radius for equation.

EX 2: Write an equation of a circle with center $(-4, 0)$ and a diameter of 10.

$$C: (-4, 0)$$

$$r: 5$$

$$(x+4)^2 + (y+0)^2 = 25$$

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

EX 3: Write an equation of a circle with center $(2, -9)$ and a radius of $\sqrt{2}$.

$$C: (2, -9)$$

$$r: \sqrt{2}$$

$$(x-2)^2 + (y+9)^2 = 2$$

$$\sqrt{2}^2 = 2$$

EX 4: Find the coordinates of the center and the measure of the radius for $(x-6)^2 + (y+3)^2 = 25$.

$$C: (6, -3)$$

$$r: 5$$

(change signs)

(square root)

EX 5: Find the coordinates of the center and the measure of the radius for $(x+1)^2 + (y-2)^2 = 40$.

$$C: (-1, 2)$$

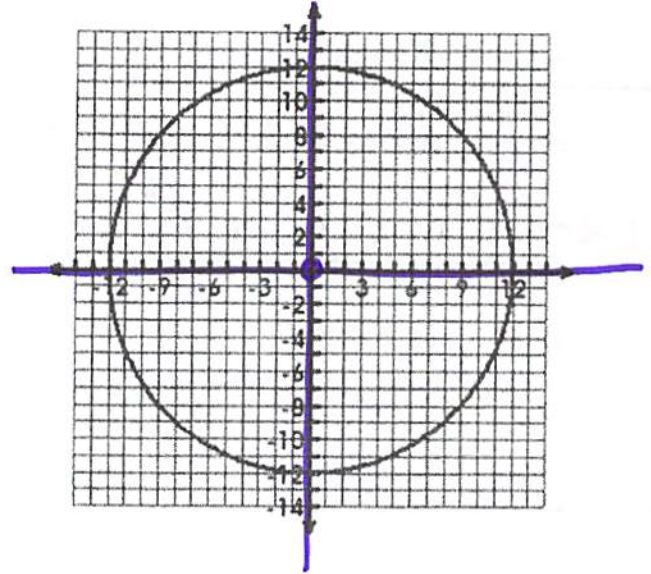
$$r: \sqrt{40} = 2\sqrt{10}$$

EX 6: Find the center, radius, & equation of the circle.

$$C: (0, 0)$$

$r: 12$ (Count from center to circle)

$$x^2 + y^2 = 144$$

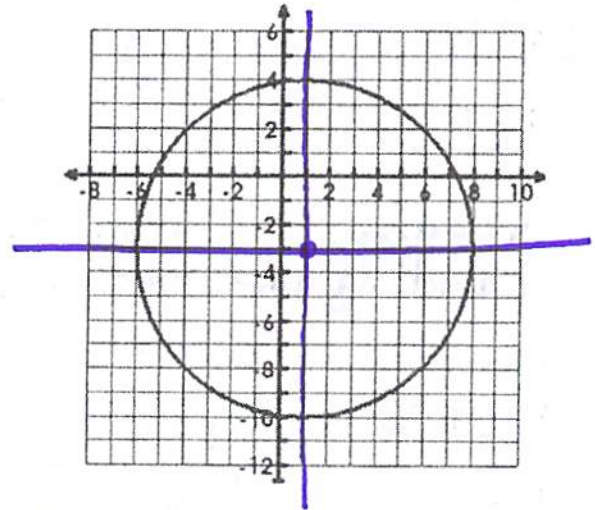


EX 7: Find the center, radius, & equation of the circle.

$$C: (1, -3)$$

$r: 7$

$$(x-1)^2 + (y+3)^2 = 49$$



EX 8: Graph the circle of $(x-3)^2 + (y-2)^2 = 9$

$$C: (3, 2)$$

$r: 3$

* Plot center &
Count 3 in all four
directions to finish
circle

