

Do-now:

1. Turn HW in basket.

$$\text{radius} = 5$$

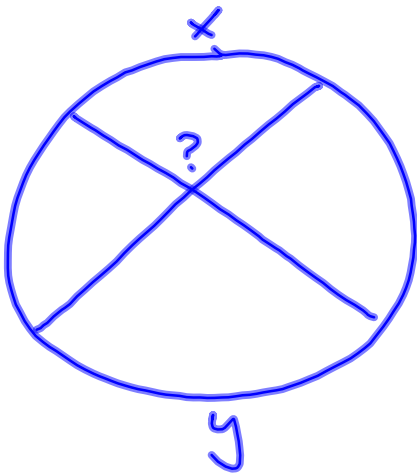
2. What is the equation of a circle with a diameter of 10 inches and a center of $(0, -4)$?

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

$$(x-0)^2 + (y-(-4))^2 = 5^2$$

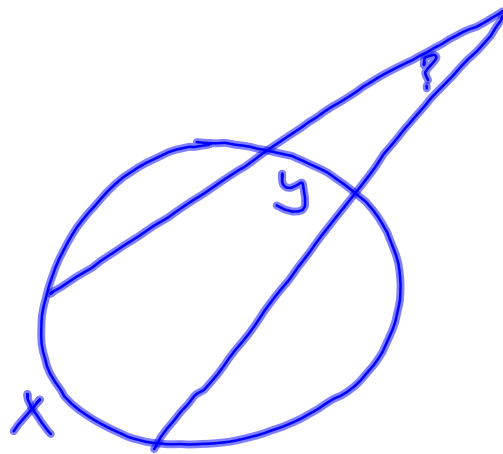
$$x^2 + (y+4)^2 = 25$$

\angle s inside \odot



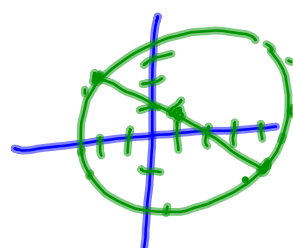
$$\frac{x+y}{2}$$

\angle s outside \odot



$$\frac{x-y}{2}$$

The coordinates of the endpoints of a diameter are $(-2, 3)$ and $(4, -1)$.
 What is the equation of the circle?



$$\text{Center} = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right) = (1, 1)$$
 x_1, y_1 x_2, y_2
 h, k

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

$$(-2-1)^2 + (3-1)^2 = r^2$$

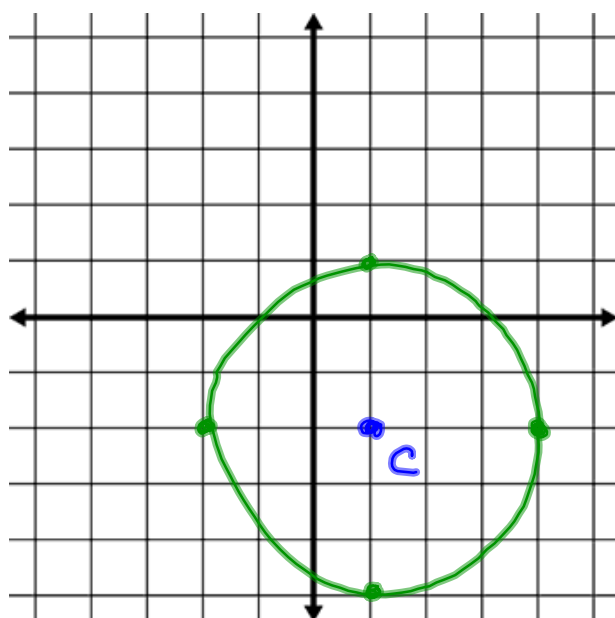
$$(-3)^2 + (2)^2 = r^2$$

$$9 + 4 = r^2$$

$$13 = r^2$$

$$(x-1)^2 + (y-1)^2 = 13$$

What is the graph of a circle with the equation $(x - 1)^2 + (y + 2)^2 = 9$?



$$\text{center} = (1, -2)$$

$$r^2 = 9$$

$$\text{radius} = 3$$

