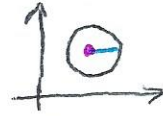


Monday 10-15-18

Circles in standard form with center and radius.



Equation of a circle in standard form with center (h, k) and the radius "r."

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

Practice from center and radius to standard form.

- ① Center $(2, 5)$ radius = 7 ② Center $(-2, 0)$ radius = $\sqrt{10}$

$$(x-2)^2 + (y-5)^2 = 7^2$$

$$(x-2)^2 + (y-5)^2 = 49$$

$$(x+2)^2 + (y-0)^2 = (\sqrt{10})^2$$

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

- ③ Center $(0, 0)$ radius = $\frac{1}{3}$

$$(x-0)^2 + (y-0)^2 = \left(\frac{1}{3}\right)^2$$

$$x^2 + y^2 = \frac{1}{9}$$

Practice from standard form to center and radius.

- ① $(x+5)^2 + (y-7)^2 = 36$

$$(-5, 7) \text{ center}$$

$$\sqrt{36} = 6 = \text{radius}$$

- ② $(x-4)^2 + y^2 = 40$

$$\text{Center } (4, 0) \quad \text{radius} = \sqrt{40}$$

or simplified
 $2\sqrt{10}$
 or decimal
 6.32

- ③ $x^2 + y^2 = .0004$

$$(0, 0) \text{ center}$$

$$\text{radius} = \sqrt{.0004} = 0.02$$

* Any equation beginning w/ $x^2 + y^2 =$ is a circle with a center of $(0, 0)$.