Notes: Equation of a Circle Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Warm Up**

Solve for the length of the circle’s radius.



**Equation of a Circle:**

 $(h, k)$ is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 $r$ is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 $(x, y)$ is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Example 1:**

What is the equation of a circle whose center is at (4 , 5) and radius is 3?

**Example 2:**

What is the equation of a circle whose center is at (-1 , 7) and radius is 4?

**Example 3:**

What is the center and the radius of the circle whose equations is $(X+4)^{2}+ (y+9)^{2}=9$.

**Example 4:**

What is the center and the radius of the circle whose equations is $x^{2}+ y^{2}=8$.

**Example 5:**

Identify the center and radius. Then sketch the graph.

$$(x+4)^{2}+(y-6)^{2}=4$$