

1. The Equation of a Circle
2. You should be familiar with the Pythagorean Theorem and the Distance Formula. In this lesson, we will write the equation of a circle, given the radius and center.
3. Here is an example, we wish to write the equation of a circle, centered at $(2, 4)$ with radius $r = 3$
4. Geometrically, this is the set of all points whose distance from the center $(2, 4)$ is 3.
5. Here is a picture of the circle. The radius is 3. We calculate the x -distance and y -distance by subtracting coordinates.
6. The Pythagorean Theorem then gives us the equation.
7. To recap: To write the equation of a circle, with center at (h, k) and radius r , find the x -distance and y -distance by subtracting coordinates. The Pythagorean Theorem gives the equation of a circle.