The Equation of a Circle

Since the distance from any point on the circle to the center is r, we can use the distance formula between two points (center and A). So we get

$$\sqrt{\left(x-h\right)^{2}+\left(y-k\right)^{2}}=r$$

And from this we get $\left(x-h\right)^{2}+\left(y-k\right)^{2}= r^{2}$

Notice that in the circle equation, both x and y have the same sign and the same exponent (two).

