

Course: Algebra 2
Unit: Conic Sections
Section: Circles

Example: Graphing a Circle with a Center (h, k)

Problem:

Graph the circle x minus three quantity squared plus y plus one quantity squared equals sixteen.

Solution:

The first step is to find the center. Recall the general equation of a circle and that the values of h and k tell the location of the center.

In this case the center is at the point three, negative one. Graph that point.

Now, find the radius.

Again, recall the general equation of a circle and note that r squared equals sixteen.

Solving this gives us the radius, which is four.

The radius tells us that all points on the circle will be four units away from the center. To graph this, start by marking points four units up from the center, four units to the left of the center, four units down from the center and four units to the right of the center.

The last step, then, is to simply draw the circle. It should go through these four points and remain four units away from the center.