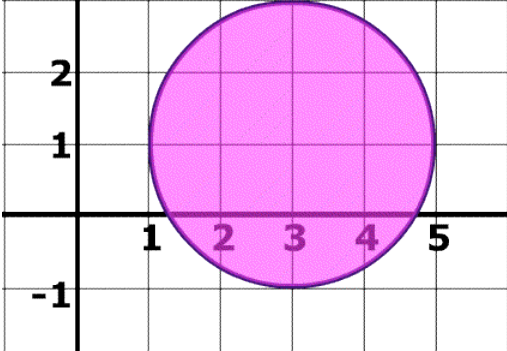


Equations of Circles

TSW write an equation of a circle given the center point and a point on the circle.

| | | |
|--|--|--|
| <p>Equation of a Circle – Definition $(x - h)^2 + (y - k)^2 = r^2$ Where the center is (h, k) and the r = radius</p> |  | <p>Identify the radius and the center of the circle. $r = 2$, center = (3, 1)</p> |
| | | |
| | | |
| | | |

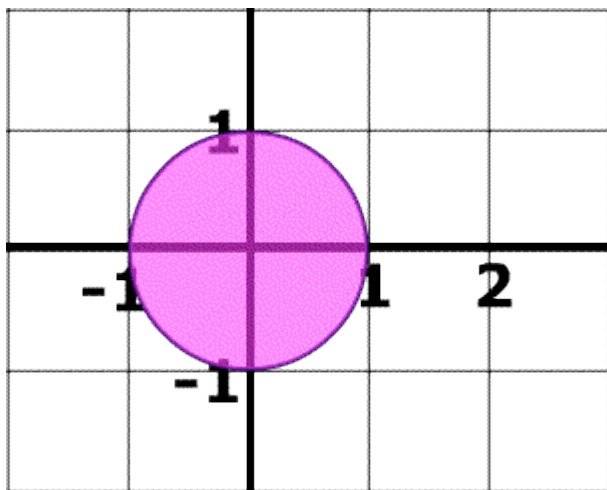
<http://www.mathwarehouse.com/geometry/circle/equation-of-a-circle.php>

Interactive Circle

Interactive equation of circle activity. Click and drag either of the points below to explore the standard form equation of a circle and its relationship to the radius.

Practice Problems

- 1 What is the equation of the circle pictured on the graph below?

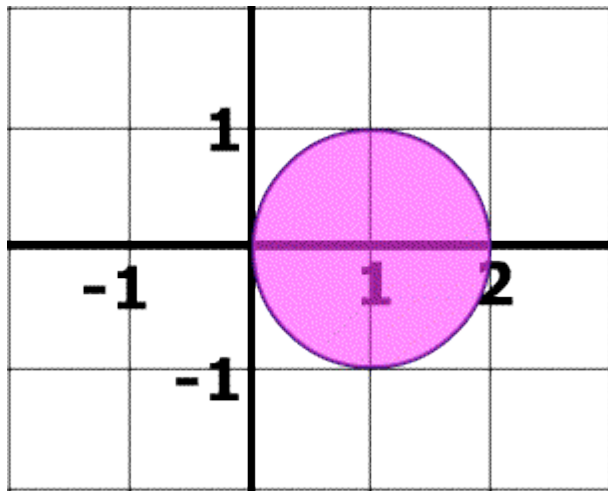


Since the radius of this this circle is 1, and its center is the origin, this picture's equation is

$$(Y-0)^2 + (X-0)^2 = 1^2$$

$$Y^2 + X^2 = 1$$

- 2 Look at the graph below, can you express the equation of the circle in standard form?

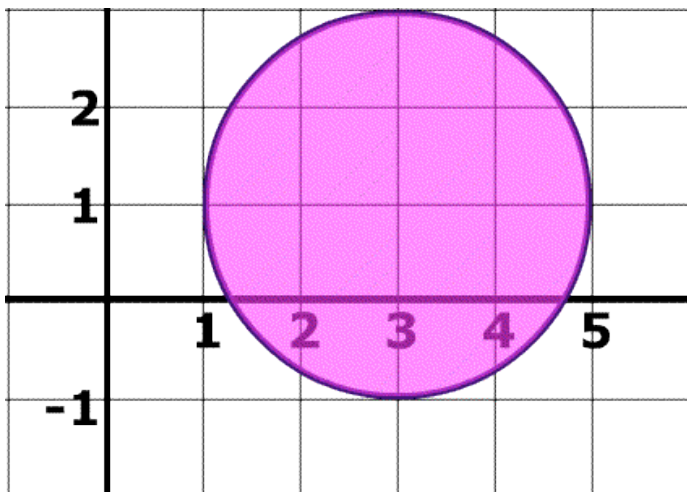


Since the radius of this circle is 1, and its center is (1,0) , this circle's equation is

$$(Y-0)^2 +(X-1)^2 = 1^2$$

$$Y^2 + (X-1)^2 = 1$$

- 3 Look at the graph below, can you express the equation of the circle in standard form?



1. $Y^2+X^2 =9$
2. $Y^2+X^2 =16$
3. $Y^2+X^2 =25$
4. $Y^2+X^2 =36$
5. $Y^2+X^2 =49$

What is the radius of the circles on the left?

Equation of Circle in Standard Form. Identify the center point and the radius for each.

- $(y-3)^2+(X-1)^2 =9$
- $(y-5)^2+(X-14)^2 =16$
- $(y-1)^2+(X-5)^2 =25$
- $(X+2)^2+(y-12)^2 =36$
- $(y+7)^2+(X +5)^2 =49$
- $(X +8)^2+(y+17)^2 =49$