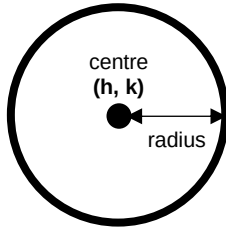


Graphing Circles

Circles



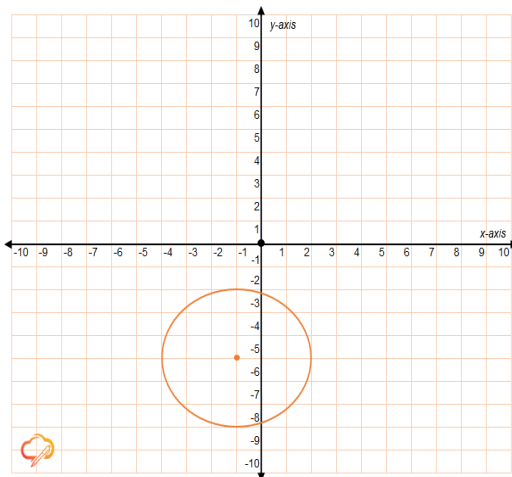
Circles can be modelled by the centre-radius equation.
In this equation, the centre point is at (h, k) and r = radius of the circle. This information is what you need to graph any circle.

CENTRE-RADIUS EQUATION

$$(x - h)^2 + (y - k)^2 = r^2$$

Graphing a CIRCLE

Centre lies at $(-1, -5)$ and radius is 3.



STEP ONE: Graph the circle if you are given the centre point and radius. If not, use the equation to find them.

To find the circle equation:

STEP ONE: Write what you know.

$$h = -1 \quad k = -5 \quad r = 3$$

The centre (h, k) is $(-1, -5)$.

The circle has a radius of 3 units.

STEP TWO: Substitute the variables into the centre-radius equation.

$$(x - -1)^2 + (y - -5)^2 = (3)^2$$

STEP THREE: Write the circle equation.

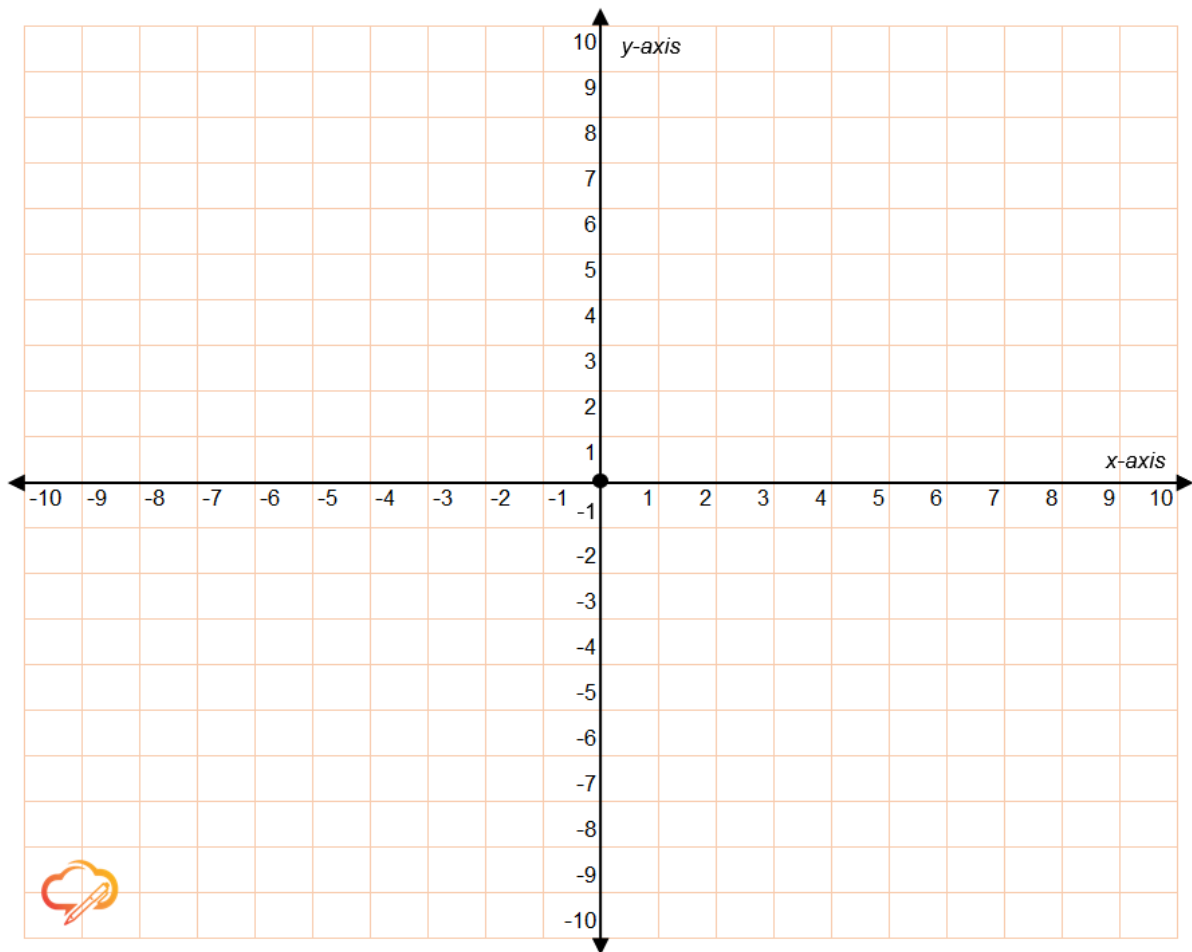
$$(x + 1)^2 + (y + 5)^2 = 9$$

Instructions: Write equations for the circles below.

1	<i>Centre $(4, 2)$ with $r = 2$</i>	2	<i>Centre $(-3, -2)$ with $r = 5$</i>
3	<i>Centre $(5, -7)$ with $r = 3$</i>	4	<i>Centre $(-5, 5)$ with $r = 4.5$</i>
5	<i>Centre $(7, 7)$ with $r = 3.5$</i>	6	<i>Centre $(2, -1)$ with $r = 8$</i>

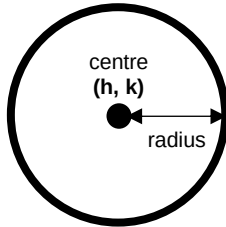


Instructions: Graph the circles on the Cartesian plane below.



Graphing Circles

Circles



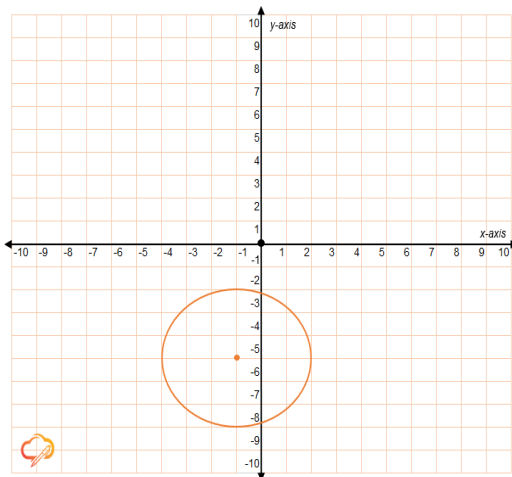
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$$(x - h)^2 + (y - k)^2 = r^2$$

Graphing a CIRCLE

Centre lies at $(-1, -5)$ and radius is 3.



STEP ONE: Graph the circle if you are given the centre point and radius. If not, use the equation to find them.

To find the circle equation:

STEP ONE: Write what you know.

$$h = -1 \quad k = -5 \quad r = 3$$

The centre (h, k) is $(-1, -5)$.

The circle has a radius of 3 units.

STEP TWO: Substitute the variables into the centre-radius equation.

$$(x - -1)^2 + (y - -5)^2 = (3)^2$$

STEP THREE: Write the circle equation.

$$(x + 1)^2 + (y + 5)^2 = 9$$

Instructions: Write equations for the circles below.

1	<i>Centre $(7, 0)$ with $r = 3$</i>	2	<i>Centre $(-4, 5)$ with $r = 2.5$</i>
3	<i>Centre $(-2, -1)$ with $r = 2$</i>	4	<i>Centre $(6, -5)$ with $r = 3$</i>
5	<i>Centre $(0, -3)$ with $r = 6.5$</i>	6	<i>Centre $(1, -4)$ with $r = 5.5$</i>



Instructions: Graph the circles on the Cartesian plane below.

