

Equations of Circles



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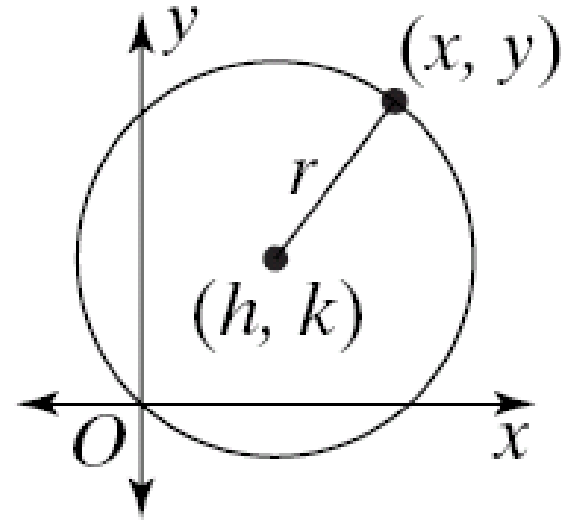
Equation of a Circle

The center of a circle is given by (h, k)

The radius of a circle is given by r

The equation of a circle in standard form is

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





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Finding the Equation of a Circle

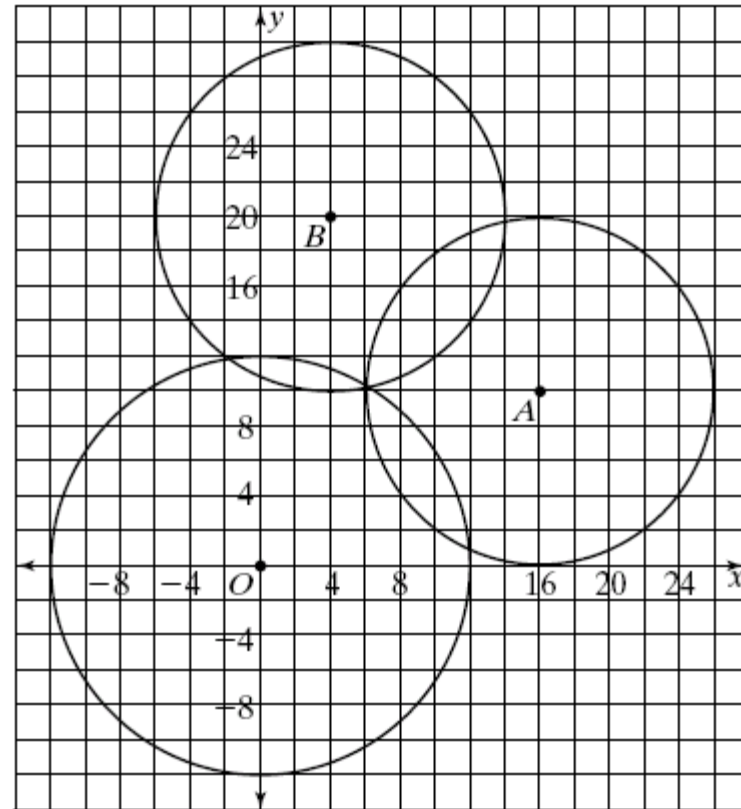
Circle A

The center is $(16, 10)$

The radius is 10

The equation is

$$(x - 16)^2 + (y - 10)^2 = 100$$





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Finding the Equation of a Circle

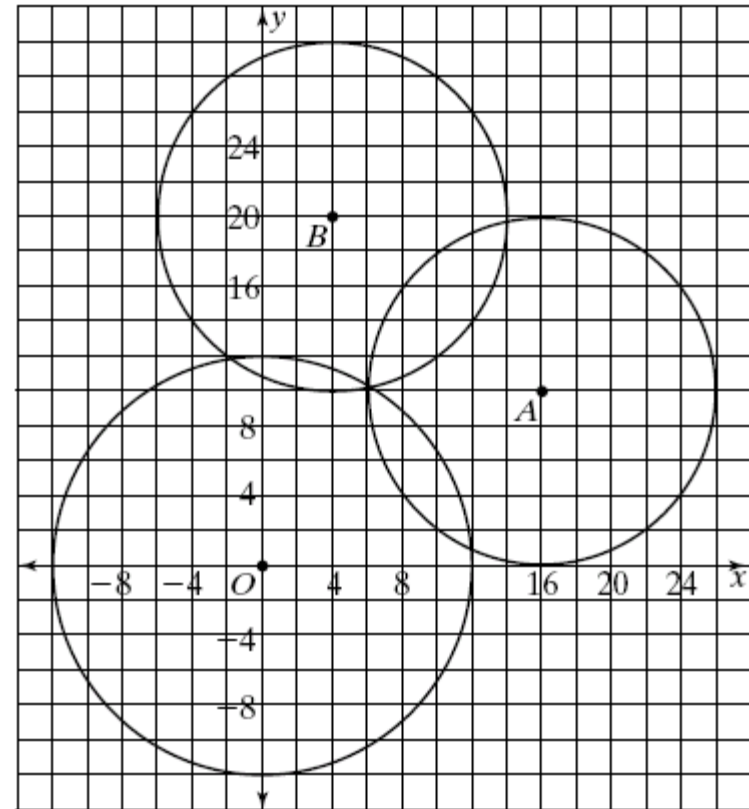
Circle B

The center is $(4, 20)$

The radius is 10

The equation is

$$(x - 4)^2 + (y - 20)^2 = 100$$





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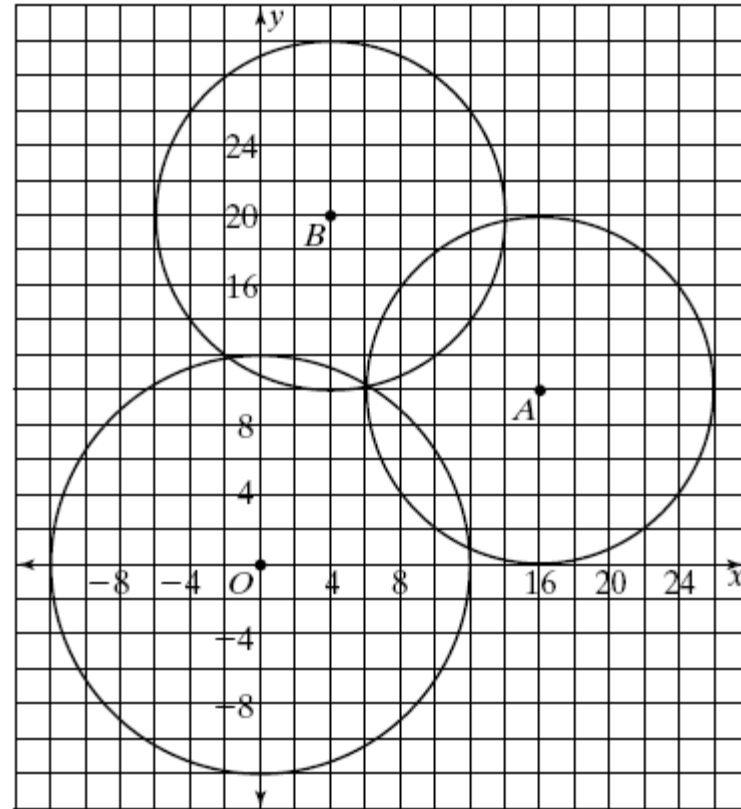
Finding the Equation of a Circle

Circle O

The center is $(0, 0)$

The radius is 12

The equation is
 $x^2 + y^2 = 144$





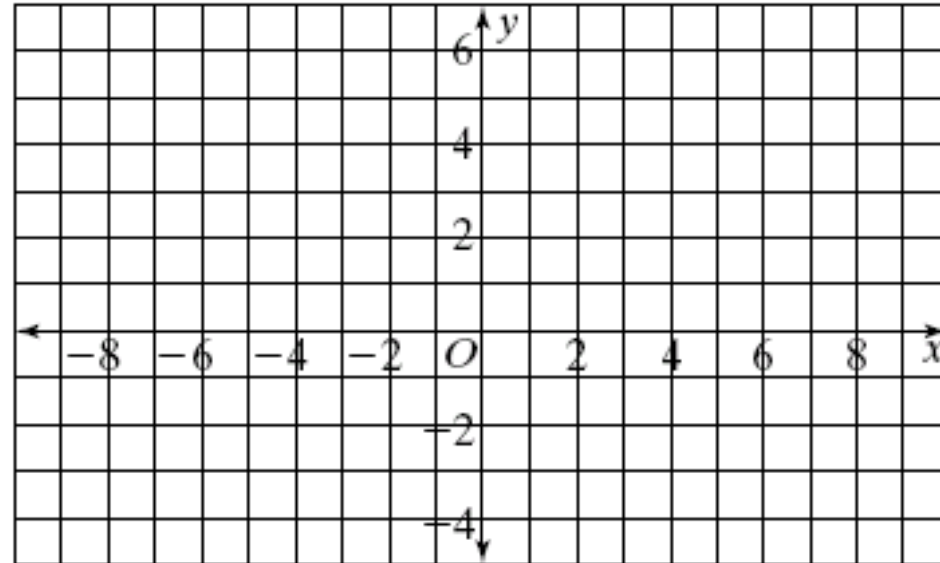
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Graphing Circles

$$(x - 3)^2 + (y - 2)^2 = 9$$

Center $(3, 2)$

Radius of 3





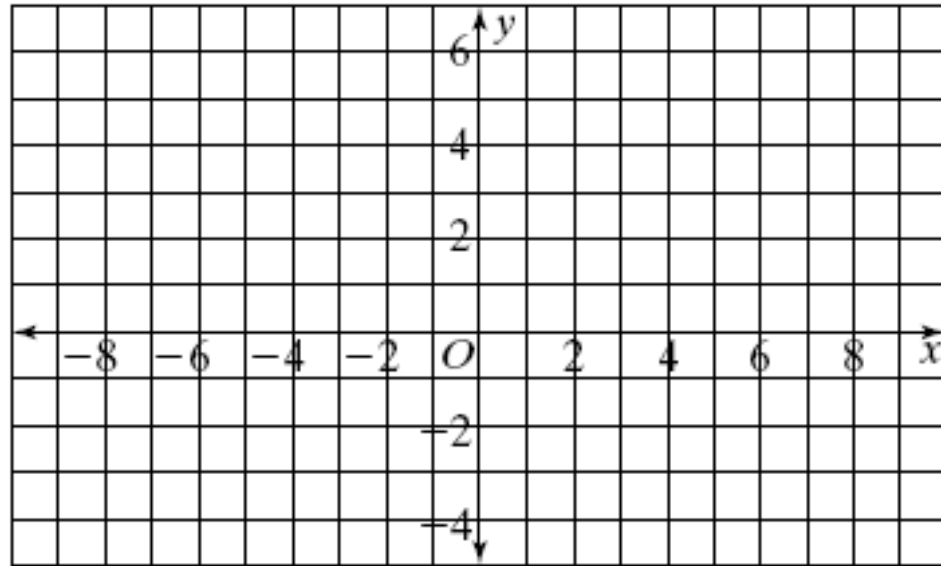
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Graphing Circles

$$(x + 4)^2 + (y - 1)^2 = 25$$

Center $(-4, 1)$

Radius of 5





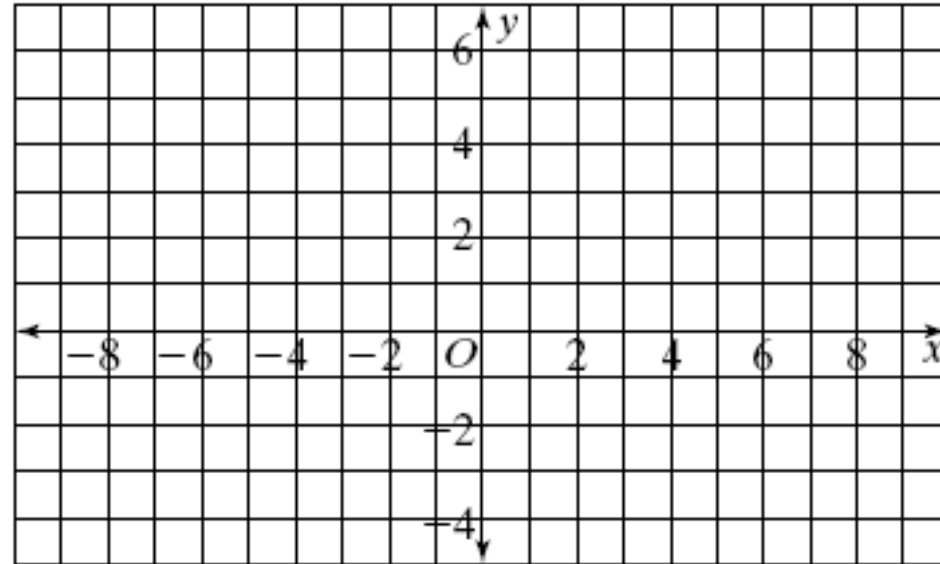
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Graphing Circles

$$(x - 5)^2 + y^2 = 36$$

Center $(5, 0)$

Radius of 6





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Writing Equations of Circles

Write the standard equation of the circle:

Center (4, 7)

Radius of 5

$$(x - 4)^2 + (y - 7)^2 = 25$$



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Writing Equations of Circles

Write the standard equation of the circle:

Center (2, -9)

Radius of

$\sqrt{11}$

$$(x - 2)^2 + (y + 9)^2 = 11$$



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Writing Equations of Circles

Write the standard equation of the circle:

Center (0, 6)

Radius of

$\sqrt{7}$

$$x^2 + (y - 6)^2 = 7$$



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Writing Equations of Circles

Write the standard equation of the circle:

Center $(-1.9, 8.7)$

Radius of 3

$$(x + 1.9)^2 + (y - 8.7)^2 = 9$$