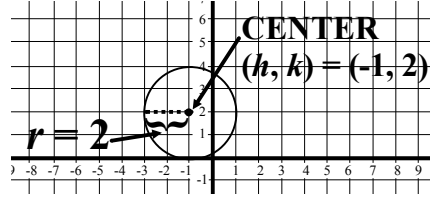


Equation of a Circle

A circle, like any other figure or function, can be represented as a graph on the xy axis. The general form of the circle equation is $(x - h)^2 + (y - k)^2 = r^2$, where (h, k) is the center point and r is **radius** (distance from the center to the curve). Another way to think about the equation is $(x \text{ oppsign center } x)^2 + (y \text{ oppsign center } y)^2 = \text{radius}^2$.

EXAMPLE



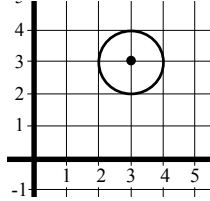
$$(x - h)^2 + (y - k)^2 = r^2$$

Center: $(h, k) = (-1, 2)$
 Center $x = -1$ (oppsign = +1)
 Center $y = 2$ (oppsign = -2)

& Radius: $r = 2$

So... $(x - h)^2 + (y - k)^2 = r^2$
 $(x + 1)^2 + (y - 2)^2 = (2)^2$
 $(x + 1)^2 + (y - 2)^2 = 4$

EXAMPLE



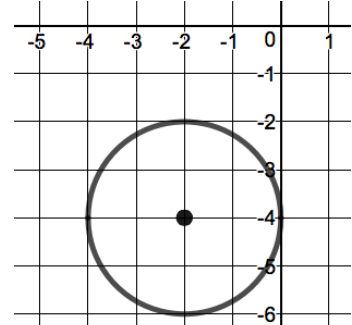
$$(x - h)^2 + (y - k)^2 = r^2$$

Center: $(h, k) = (3, 3)$
 Center $x = 3$ (oppsign = -3)
 Center $y = 3$ (oppsign = -3)

& Radius: $r = 1$

So... $(x - h)^2 + (y - k)^2 = r^2$
 $(x - 3)^2 + (y - 3)^2 = (1)^2$
 $(x - 3)^2 + (y - 3)^2 = 1$

EXAMPLE



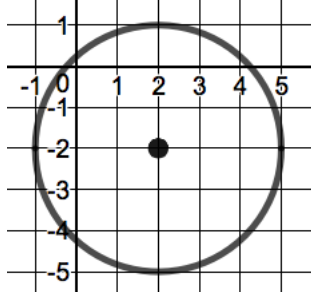
$$(x - h)^2 + (y - k)^2 = r^2$$

Center: $(h, k) = (-2, -4)$
 Center $x = -2$ (oppsign = +2)
 Center $y = -4$ (oppsign = +4)

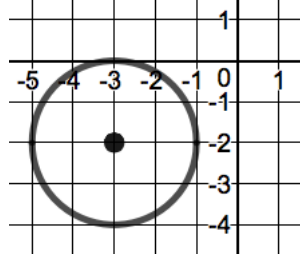
& Radius: $r = 2$

So... $(x - h)^2 + (y - k)^2 = r^2$
 $(x + 2)^2 + (y + 4)^2 = (2)^2$
 $(x + 2)^2 + (y + 4)^2 = 4$

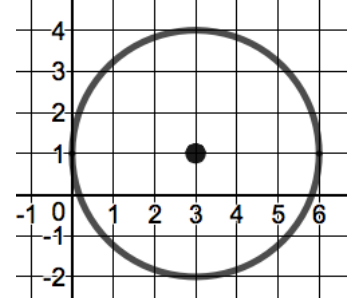
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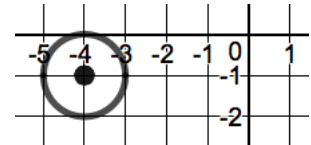
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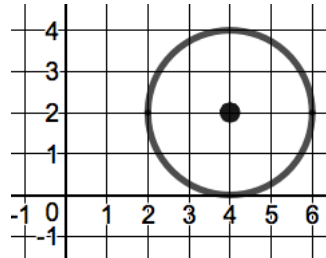
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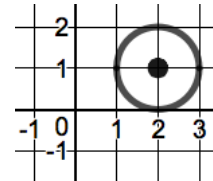
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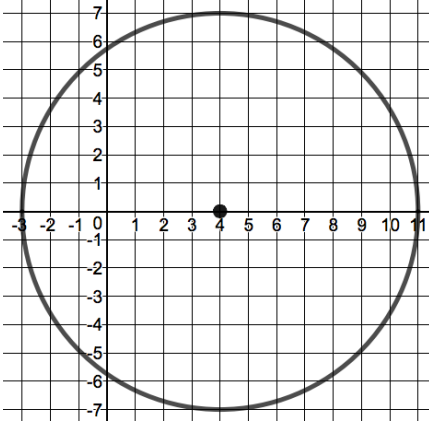
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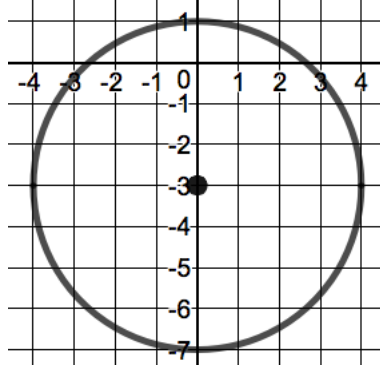
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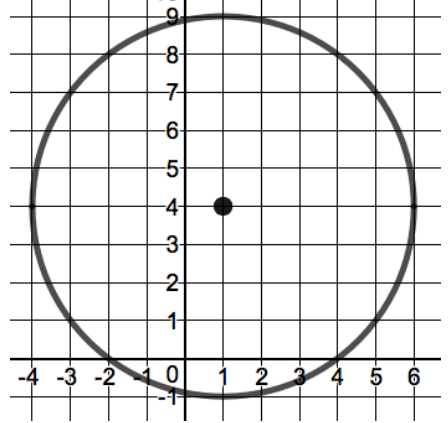
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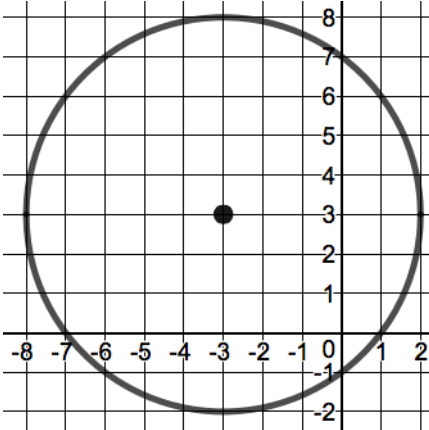
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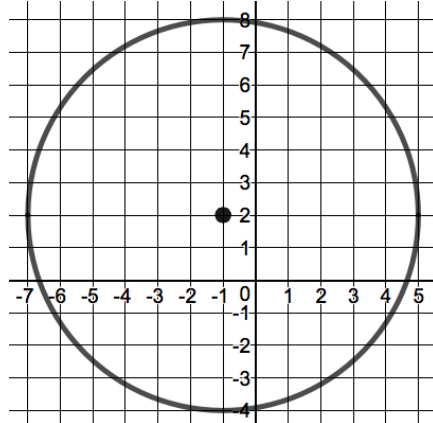
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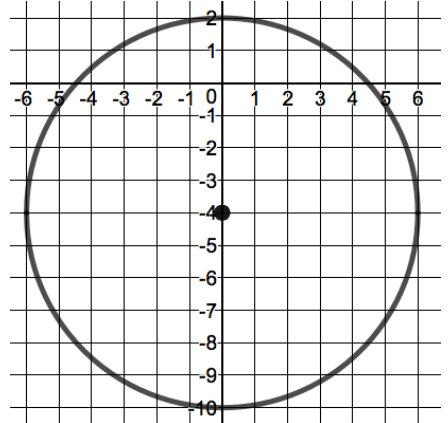
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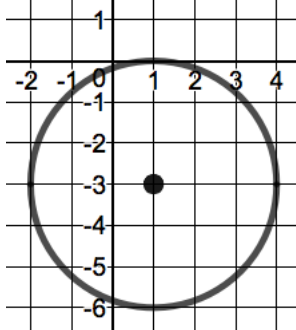
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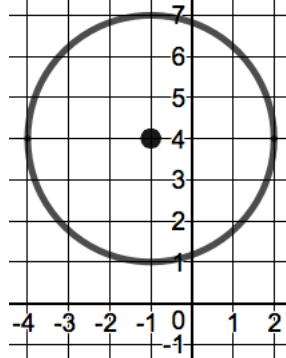
12.



13.



14.



15.

