

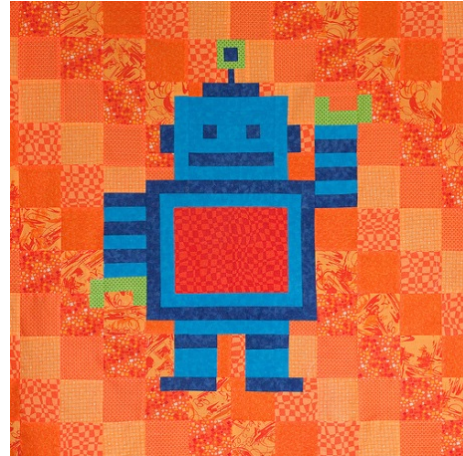
Ready, Set, Go!

Ready Topic: Finding key features in the graph of a quadratic equation

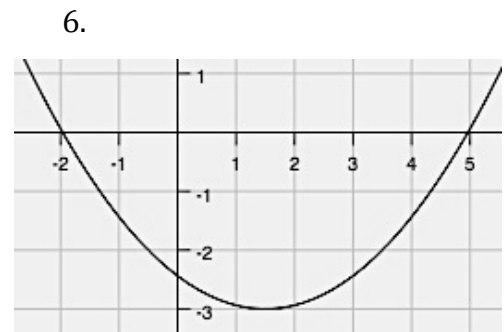
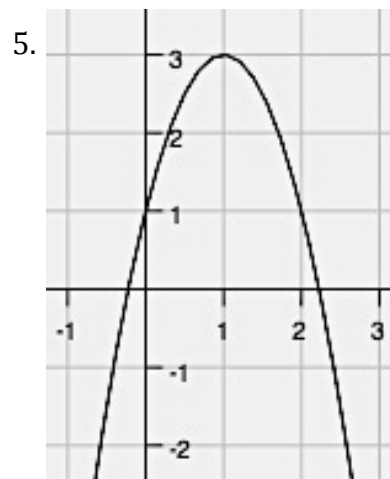
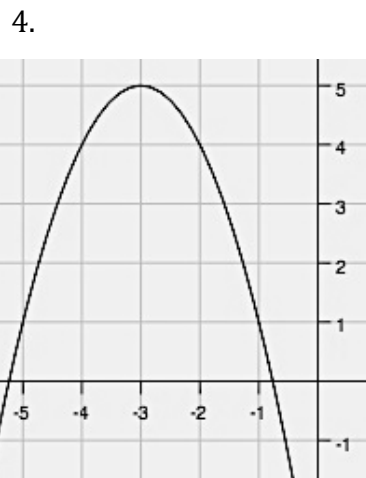
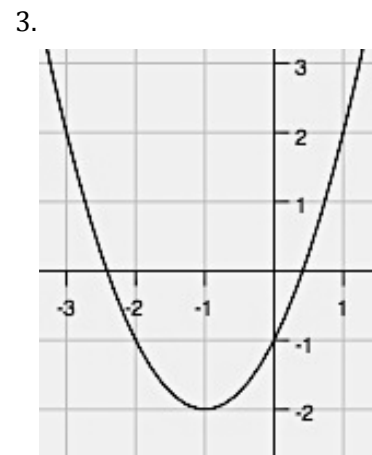
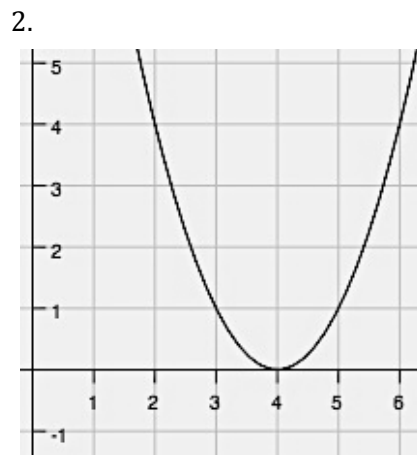
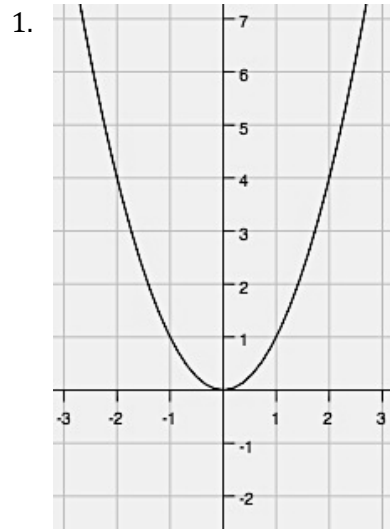
Make a point on the **vertex** and draw a dotted line for the **axis of symmetry**.

Label the coordinates of the vertex and state whether it's a **maximum** or a **minimum**.

Write the **equation for the axis of symmetry**.



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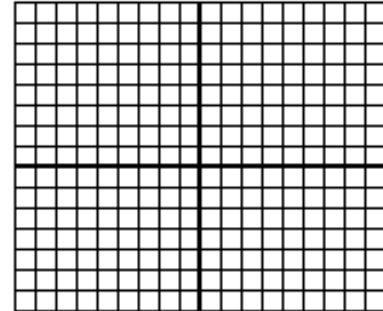


7. What connection exists between the coordinates of the vertex and the equation of the axis of symmetry?

8. Look back at #6. Try to find a way to find the **exact** value of the coordinates of the vertex. Test your method with each vertex in 1 - 5. Explain your conjecture.

9. How many **x-intercepts** can a parabola have?

10. Sketch a parabola that has no x-intercepts, then explain what has to happen for a parabola to have no x-intercepts.



Set Topic: Transformations on quadratics

Choose the area model that is the best match for the equation.

11. $x^2 + 4$	12. $(x + 4)^2$	13. $(4x)^2$	14. $4x^2$
<p>A.</p>		<p>B.</p>	
<p>C.</p>			



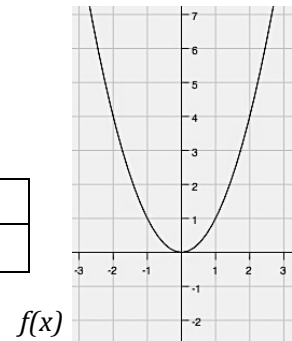
D.

				x
				x

A table of values for $f(x) = x^2$ is given. Compare the values in the table for $g(x)$ to those for $f(x)$. Identify what stays the same and what changes. Use this information to write the vertex form of the equation of $g(x)$. Then graph $g(x)$.

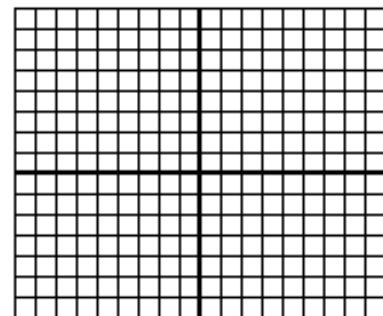
Describe how the graph changed from the graph of $f(x)$. Use words such as right, left, up, and down.

x	-3	-2	-1	0	1	2	3
$f(x) = x^2$	9	4	1	0	1	4	9



15. $g(x) =$

x	-3	-2	-1	0	1	2	3
$g(x)$	2	-3	-6	-7	-6	-3	2



In what way did it move?
What part of the equation shows this move?

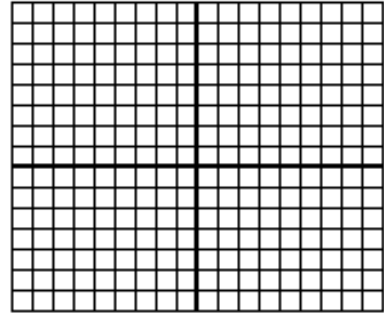


16. $g(x) =$

x	-3	-2	-1	0	1	2	3
$g(x)$	11	6	3	2	3	6	11

In what way did it move?

What part of the equation shows this move?

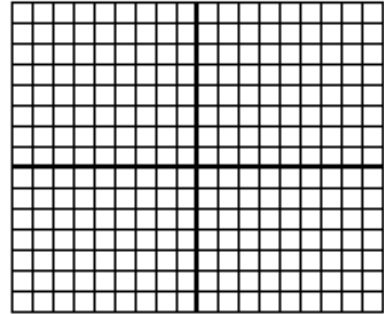


17. $g(x) =$

x	-4	-3	-2	-1	0	1	2
$g(x)$	9	4	1	0	1	4	9

In what way did it move?

What part of the equation shows this move?

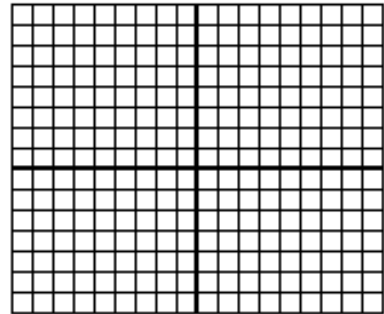


18. $g(x) =$

x	0	1	2	3	4	5	6
$g(x)$	9	4	1	0	1	4	9

In what way did it move?

What part of the equation shows this move?

**Go** Topic: Finding square roots

Simplify.

19. $\sqrt{49a^2b^6}$

20. $\sqrt{(x+13)^2}$

21. $\sqrt{(x-16)^2}$

22. $\sqrt{(36x+25)^2}$

23. $\sqrt{(11x-7)^2}$

24. $\sqrt{9m^2(2p^3-q)^2}$

