

READY, SET, GO!

Name

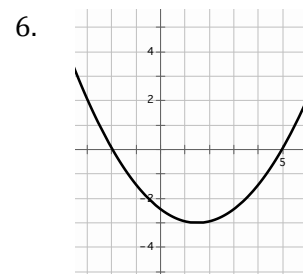
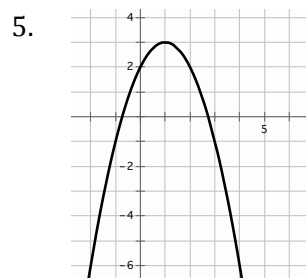
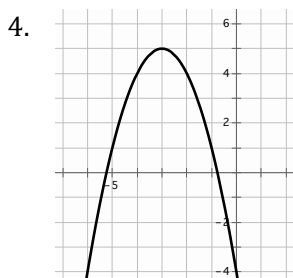
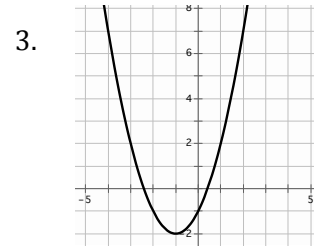
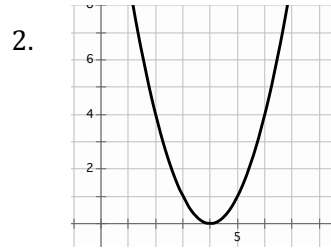
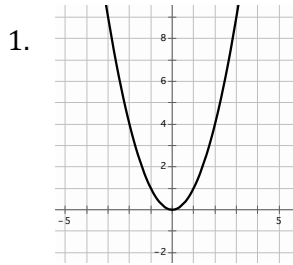
Period

Date

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.

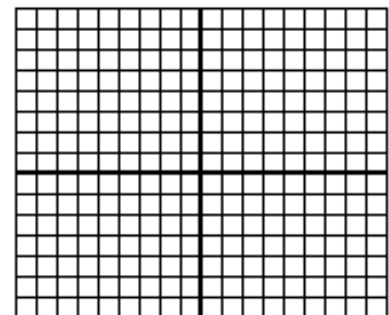


7. What connection exists between the coordinates of the vertex and the equation of the axis of symmetry?

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

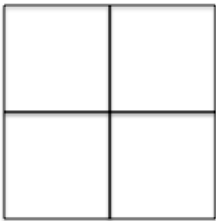
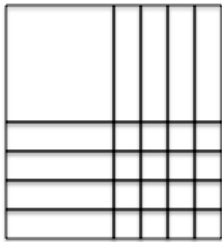
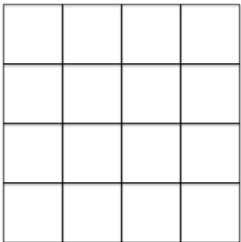

Matching: Choose the area model that is the best match for the equation.

___11. $x^2 + 4$

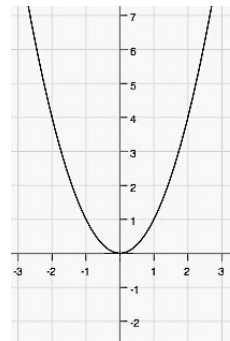
___12. $(x + 4)^2$

___13. $(4x)^2$

___14. $4x^2$

<p>a.</p> 	<p>b.</p> 
<p>c.</p> 	<p>d.</p> 

A table of values and the graph 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. a) Use this information to write the vertex form of the equation of $g(x)$. b) Graph $g(x)$. c) Describe how the graph changed from the graph of $f(x)$. Use words such as right, left, up, and down. d) Answer the question.



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

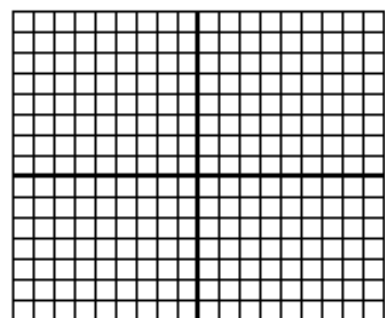
15 a) $g(x) =$

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

c) In what way did the graph move?

d) What part of the equation indicates this move?

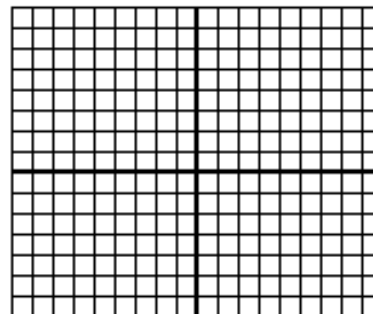
b)



16 a) $g(x) =$

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

b)



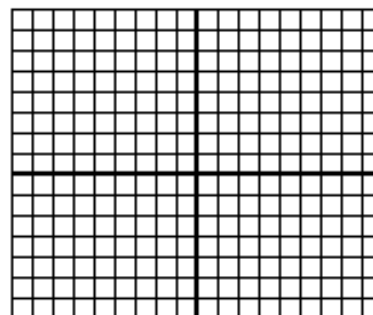
c) In what way did the graph move?

d) What part of the equation indicates this move?

17 a) $g(x) =$

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

b)



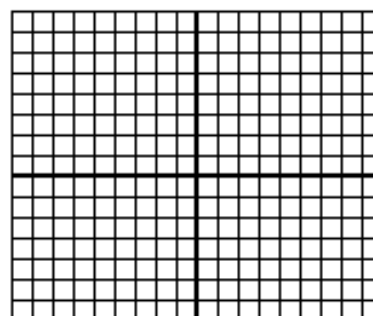
c) In what way did the graph move?

d) What part of the equation indicates this move?

18 a) $g(x) =$

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

b)



c) In what way did the graph move?

d) What part of the equation indicates this move?

GO

Topic: Finding Square Roots

Simplify the following expressions

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