Questions on 2.1 HW? Quiz soon...

coordinates of the vertex and state whether it's a maximum or a minimum. Write the equation for the axis of symmetry.

1.

2.

minimum
(4,0)

3.

4.

5.

6.

(1.5,-3)
minimum

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.

Sep 22-11:45 AM

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

__D__11. $x^2 + 4$ _____12. $(x + 4)^2$ _____13. $(4x)^2$ _____14. $4x^2$

a.

X

X

X   X

b.

X   1 1 1 1

x
x   '

c.

X

X

d.

X   1   1

X x^2 | |
             | |

1

1

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.

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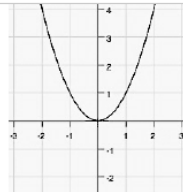
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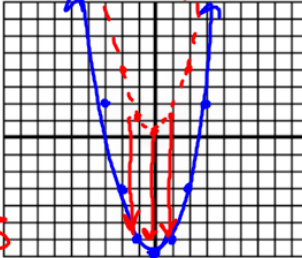
x	-3	-2	-1	0	1	2	3
$f(x) = x^2$	9	4	1	0	1	4	9

15 a) $g(x) = x^2 - 7$ b)

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? *down 7 units*

d) What part of the equation indicates this move?

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Sep 22-11:58 AM

Simplify the following expressions

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

$\sqrt{49} \cdot \sqrt{a^2} \cdot \sqrt{b^6} = 7a \cdot \sqrt{b \cdot b \cdot b \cdot b \cdot b \cdot b} = 7a \cdot \sqrt{b^2} \cdot \sqrt{b^2} \cdot \sqrt{b^2} = 7ab^3$

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

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

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

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

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

$\sqrt{9} \cdot \sqrt{m^2} \cdot \sqrt{(2p^3-q)^2}$
$= 3m(2p^3-q)$
or
$\pm 3m(2p^3-q)$

$\sqrt{3^2} = 3$

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$\sqrt{a^2} = \sqrt{a \cdot a} = a$

10

SECONDARY MATH II // MODULE 2

STRUCTURES OF EXPRESSIONS

2.2 Transformers: More Than Meets the y's

Sep 22-12:06 PM

SECONDARY MATH II // MODULE 2
STRUCTURES OF EXPRESSIONS

2.2 Transformers: More Than Meets the y's

A Solidify Understanding Task

Write the equation for each problem below. Use a second representation to check your equation.

1. The area of a square with side length *x*, where the side length is decreased by 3, the area is multiplied by 2 and then 4 square units are added to the area. **-3**
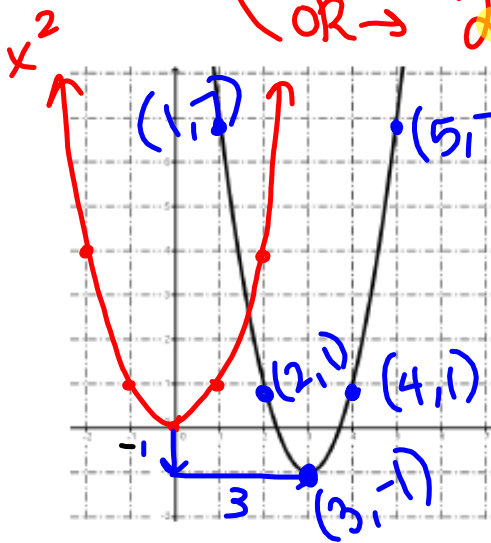
$\text{Area} = x(x-3) = x^2 - 3x$

$2(x^2 - 3x) + 4 = 2x^2 - 6x + 4$
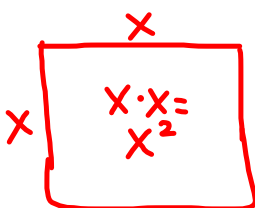
$\text{OR} \rightarrow 2x(x-3) + 4$

2.

x^2

$(1,7)$ $(5,7)$

$(2,0)$ $(4,1)$ $(3,-1)$

Vertex Form:
$$y = a(x-h)^2 + k$$
$$y = 2(x-3)^2 - 1$$

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

x	$y = x^2$
-1	1
0	0
1	1
2	4
-2	4

$x \cdot x = x^2$

3.

x	f(x)
-4	7
-3	2
-2	-1
-1	-2
0	-1
1	2
2	7
3	14
4	23

vertex

x^2
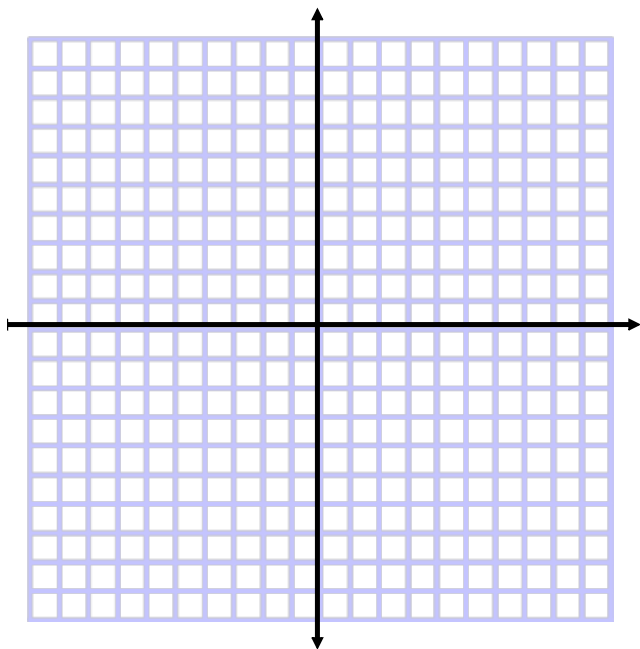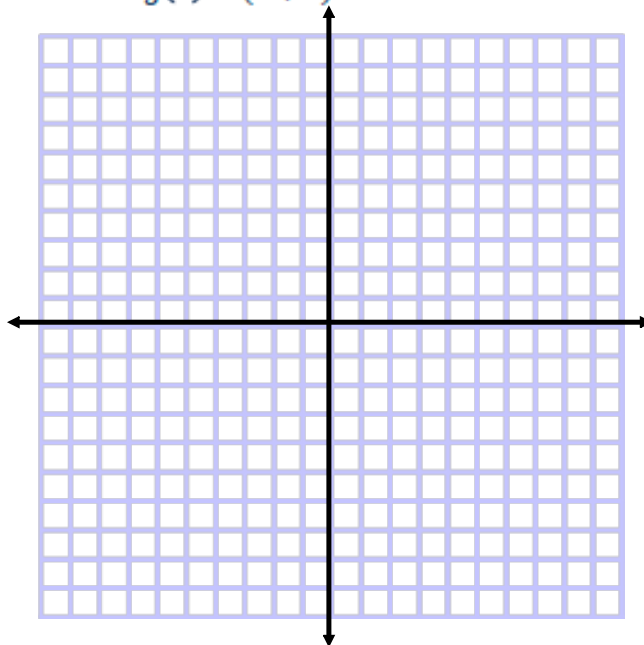
$$y = \underline{\quad}(x+1)^2 - 2$$
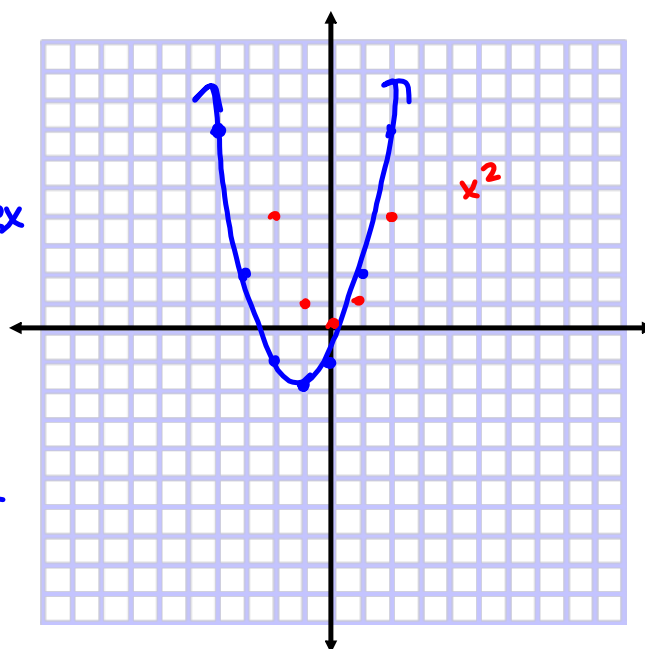
4.

Graph each equation without using technology. Be sure to have the exact vertex and at least two correct points on either side of the line of symmetry.
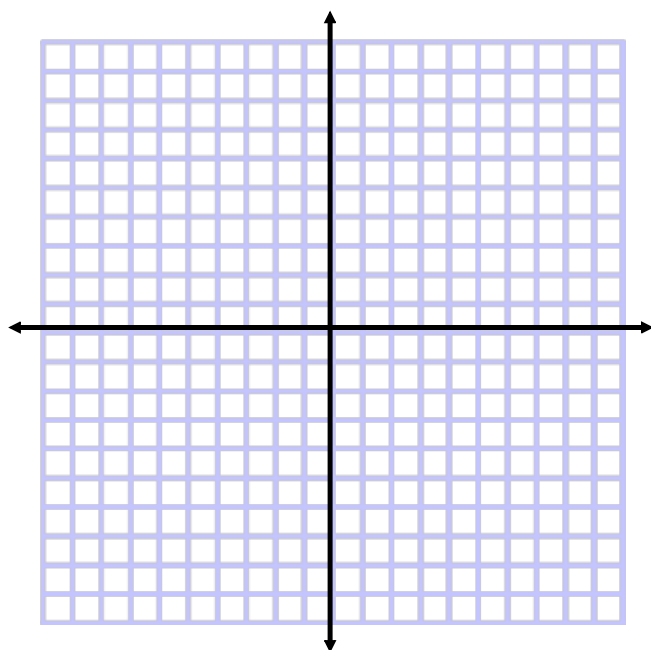
5. $f(x) = -x^2 + 3$

6. $g(x) = (x+2)^2 - 5$

7. $h(x) = 3(x-1)^2 + 2$

Sep 21-2:54 PM

8. Given: $f(x) = a(x - h)^2 + k$

    a. What point is the vertex of the parabola?

    b. What is the equation of the line of symmetry?

    c. How can you tell if the parabola opens up or down?

    d. How do you identify the dilation?

9. Does it matter in which order the transformations are done? Explain why or why not.

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Homework

Finish 2.2 "Ready, Set, Go"

Mar 28-9:36 AM