HW Questions

HW 1.6 #5)

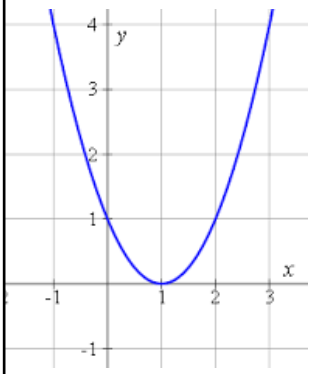
State the transformations from $y = x^2$.

$y = (100 - x)^2$

Sep 21-10:24 AM

2.1 Quadratic Functions

Objectives:



7) I can find the vertex of a quadratic function algebraically from vertex form.

8) I can find the vertex of a quadratic function algebraically from standard form.

9) I can find the axis of symmetry of a quadratic function.

10) I can use completing the square to change standard form to vertex form.

Oct 25-9:09 AM

Quadratic Functions

Recall... aka remember... aka recollect... recognize... etc.

Domain changes
Range changes

$$y = \pm a\left(\pm\frac{1}{b}x - h\right)^2 + k$$

DESMOS

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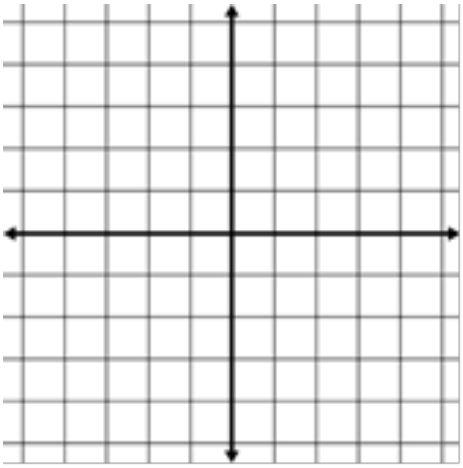
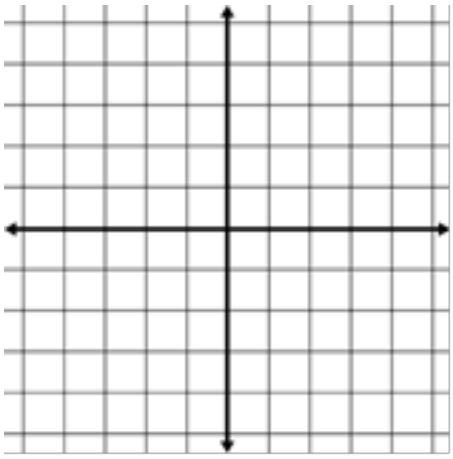
Describe the transformations, then sketch the graph.

$$g(x) = -\frac{1}{2}x^2 + 3$$



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



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Vertex: The low or high point of the curve. (h,k)

Axis of Symmetry: The line through the graph so that each side is the mirror image. $x = h$

Ex. Find the vertex and axis of symmetry of the functions.

$g(x) = -\frac{1}{2}x^2 + 3$ $h(x) = 3(x+2)^2 - 1$

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Standard Form and Vertex Form

$f(x) = 3x^2 + 12x + 11$ $h(x) = 3(x+2)^2 - 1$

Changing to vertex form by completing the square.

Ex.

$f(x) = x^2 + 12x + 11$

Ex.

$f(x) = x^2 + 6x + 7$

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Now find the vertex and axis of symmetry for each function.

$f(x)=x^2+12x+11$ $f(x)=x^2+6x+7$

Sep 20-9:46 PM

Try completing the square for this one....hahahahaha....

$f(x)=3x^2+5x-4$

Sep 20-9:57 PM

Or.... $vertex = \left(\frac{-b}{2a}, f\left(\frac{-b}{2a}\right)\right)$

Sep 20-10:02 PM

$f(x) = 3x^2 + 5x - 4$

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