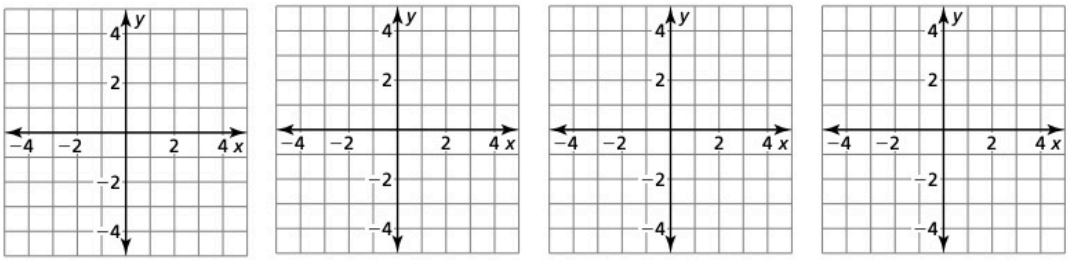
Name _____ Date _____

Transformations of Graphs of Linear Functions

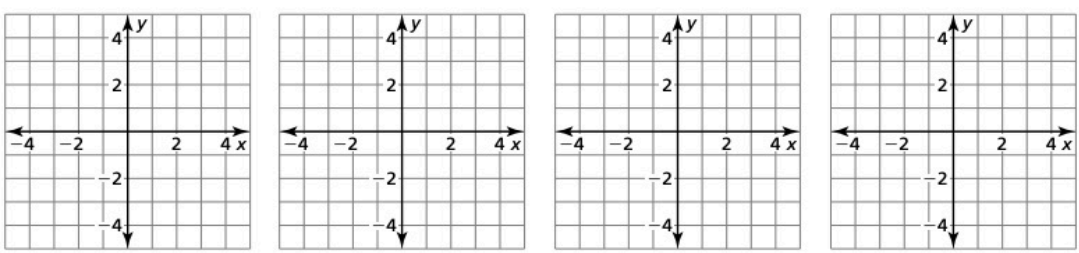
1) Using f(x)=x as the parent function, sketch each transformed graph. After completing your sketches, verify your results using a graphing calculator.

a. $g(x) = x + 4$ **b.** $g(x) = x + 2$ **c.** $g(x) = x - 2$ **d.** $g(x) = x - 4$



2) Using f(x)=x as the parent function, sketch the graphs of each function using your graphing calculator. What can we conclude from this?

a. $h(x) = \frac{1}{2}x$ **b.** $h(x) = 2x$ **c.** $h(x) = -\frac{1}{2}x$ **d.** $h(x) = -2x$



Transformations of Function

$$y = -af(-b(x-h)) +/- k$$

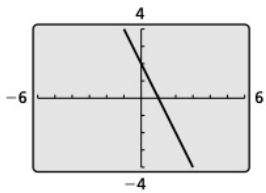
3) Explain transformation of each equation and match it to its graph.

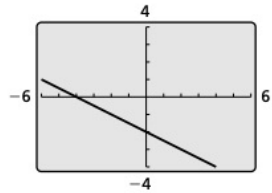
a. $k(x) = 2x - 4$

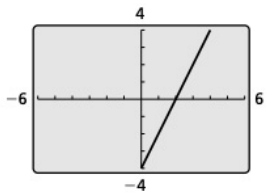
c. $k(x) = \frac{1}{2}x + 4$

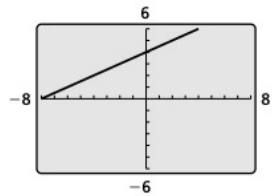
b. $k(x) = -2x + 2$

d. $k(x) = -\frac{1}{2}x - 2$



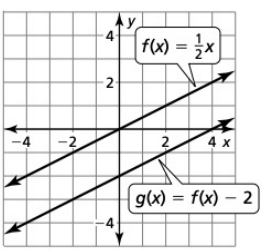






4) For problems 1-6, use graph of f and g to describe the transformation from the graph of f to graph of g.

1.



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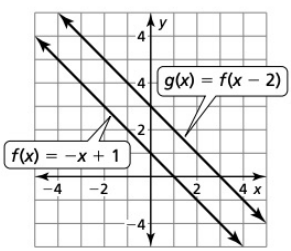

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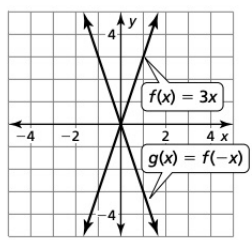

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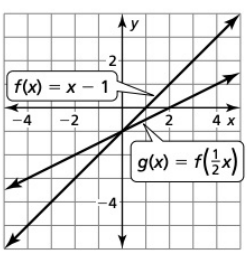

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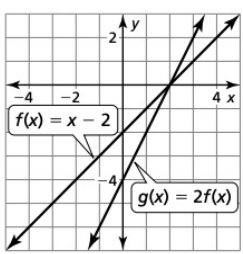
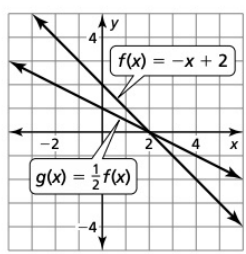


6.



7. Graph $f(x) = x$ and $g(x) = 3x - 2$. Describe the transformations from the graph of f to the graph of g.