

**Secondary Math III**  
**Transforming Functions**  
**Assignment 2.5**

Name \_\_\_\_\_  
 Period \_\_\_\_\_

**State the transformations from  $f(x) = x^2$  and graph  $g(x)$ .**

1.  $g(x) = 3(x+2)^2 - 4$

2.  $g(x) = -(x-3)^2 + 2$

3.  $g(x) = -\frac{1}{2}(x-1)^2 - 4$

Transformation(s): \_\_\_\_\_

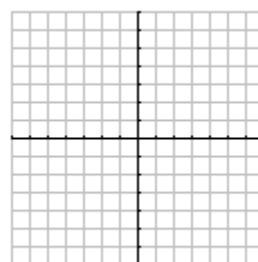
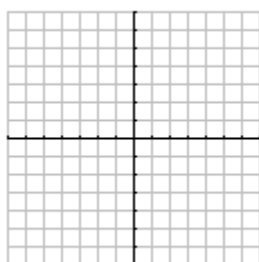
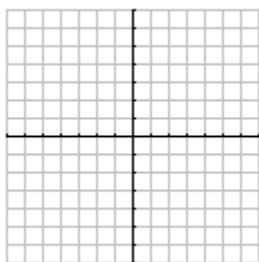
Transformation(s): \_\_\_\_\_

Transformation(s): \_\_\_\_\_

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**The graph of  $g(x)$  is shown. Describe the transformations and then graph  $k(x)$ .**

4.  $k(x) = 2g(x) + 1$

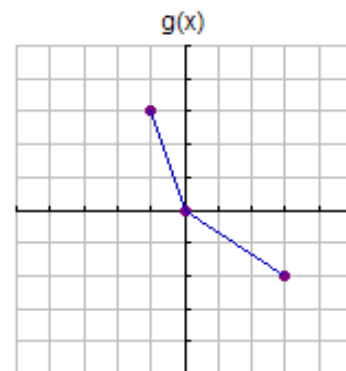
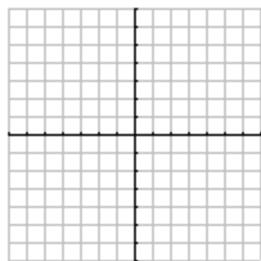
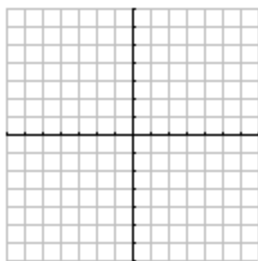
5.  $k(x) = g(x+2)$

Transformation(s): \_\_\_\_\_

Transformation(s): \_\_\_\_\_

\_\_\_\_\_.

\_\_\_\_\_.



6.  $k(x) = -g(x+1) - 2$

7.  $k(x) = g(2x)$

8.  $k(x) = g(-x)$

Transformation(s): \_\_\_\_\_

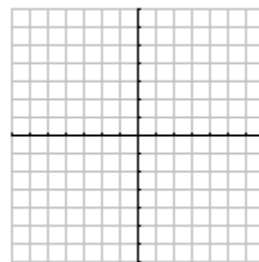
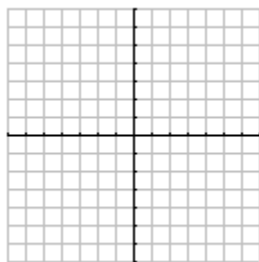
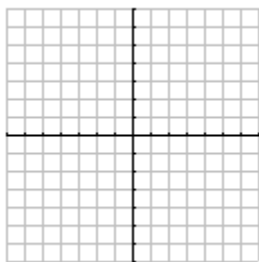
Transformation(s): \_\_\_\_\_

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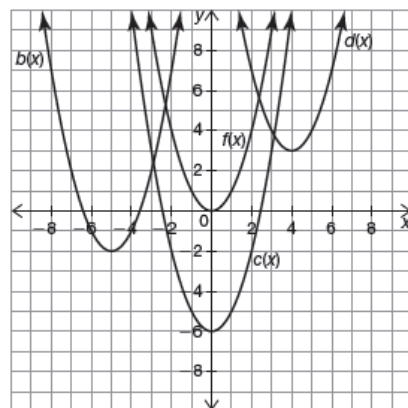
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For problems 10-13, analyze the graphs of  $b(x)$ ,  $c(x)$ ,  $d(x)$ , and  $f(x)$ . Write each function in terms of the indicated function.

10. Write  $b(x)$  in terms of  $f(x)$ .      11. Write  $d(x)$  in terms of  $b(x)$ .

12. Write  $c(x)$  in terms of  $b(x)$ .      13. Write  $b(x)$  in terms of  $c(x)$ .



If  $(9, -4)$  is a point on the graph of  $f(x)$ , find a point on  $h(x)$ .

14.  $f(x) = f(-x) + 5$

15.  $h(x) = 2f(x+3) - 3$

16.  $h(x) = -f(x)$