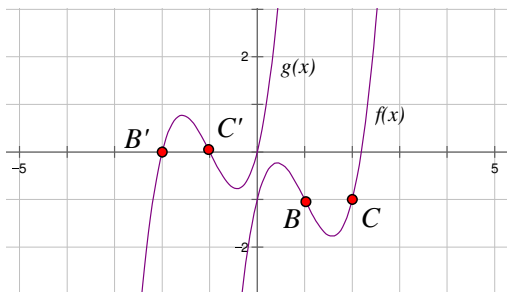


## Assignment 2A: Combining Transformations

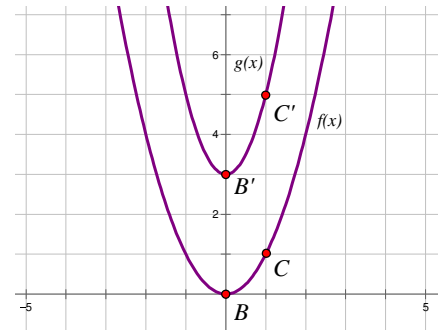
Answer the following problems from your Lippman/Rasmussen textbook with as much details, explanations, and work that is appropriate. 1.5: 26-28, 56, 99.

1. For each graph, describe the transformation that transforms  $f(x)$  into  $g(x)$ . Then write  $g(x)$  as a function of  $f(x)$ .

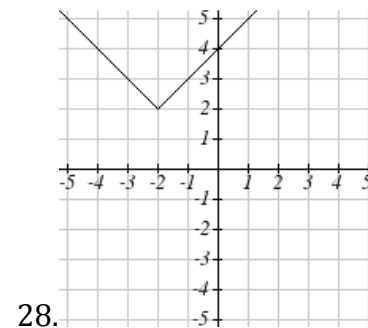
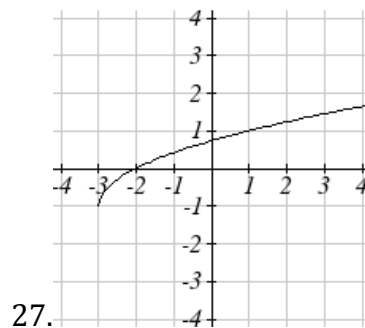
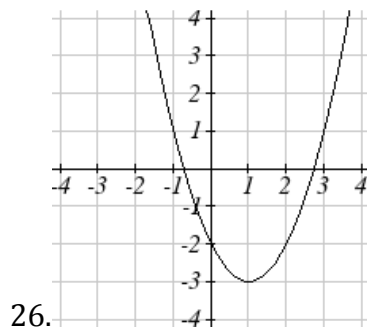
a.



b.



For the following, explain how the graph is a transformation of a toolkit function, then write an equation for each function graphed.



56.  $f(x) = x^2$  horizontally stretched by a factor of 3, then shifted to the left 4 units and down 3 units.

99. Suppose you have a function  $y = f(x)$  such that the domain of  $f(x)$  is  $1 \leq x \leq 6$  and the range of  $f(x)$  is  $-3 \leq y \leq 5$ . [UW]

- What is the domain of  $f(2(x-3))$ ?
- What is the range of  $f(2(x-3))$ ?
- What is the domain of  $2f(x)-3$ ?
- What is the range of  $2f(x)-3$ ?