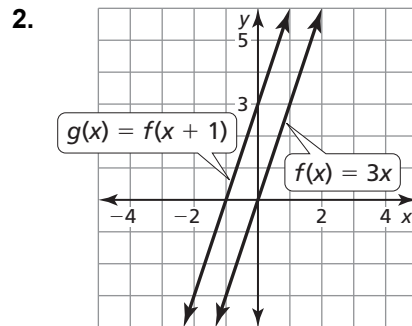
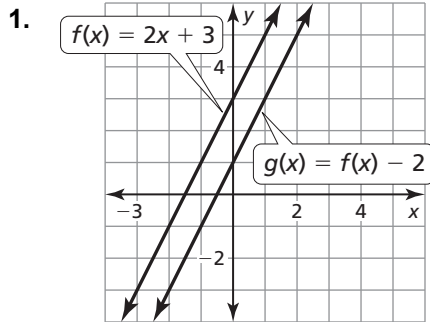


# 3.6

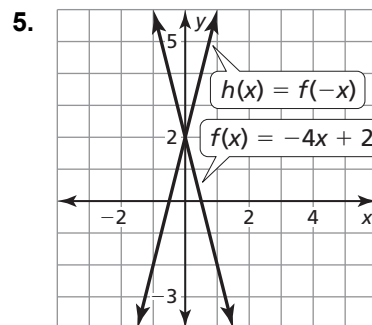
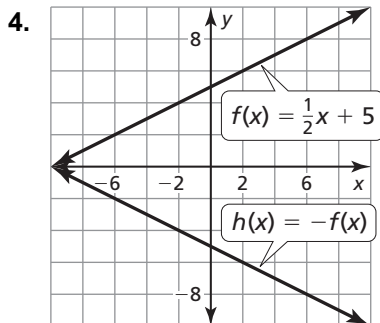
## Practice A

In Exercises 1 and 2, use the graphs of  $f$  and  $g$  to describe the transformation from the graph of  $f$  to the graph of  $g$ .



3. You and a friend start running from the same location. Your distance  $d$  (in miles) after  $t$  minutes is  $d(t) = \frac{1}{7}t$ . Your friend starts running 10 minutes after you. Your friend's distance  $f$  is given by the function  $f(t) = d(t - 10)$ . Describe the transformation from the graph of  $d$  to the graph of  $f$ .

In Exercises 4 and 5, use the graphs of  $f$  and  $h$  to describe the transformation from the graph of  $f$  to the graph of  $h$ .



In Exercises 6 and 7, use the graphs of  $f$  and  $r$  to describe the transformation from the graph of  $f$  to the graph of  $r$ .

6.  $f(x) = x + 2$ ;  $r(x) = f(3x)$                       7.  $f(x) = 3x + 6$ ;  $r(x) = \frac{1}{3}f(x)$

In Exercises 8 and 9, write a function  $g$  in terms of  $f$  so that the statement is true.

8. The graph of  $g$  is a vertical translation 3 units down of the graph of  $f$ .  
 9. The graph of  $g$  is a reflection in the  $x$ -axis of the graph of  $f$ .