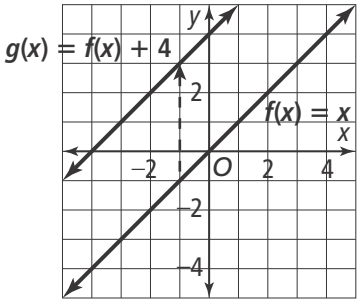
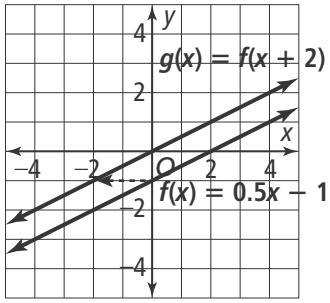
Name _____

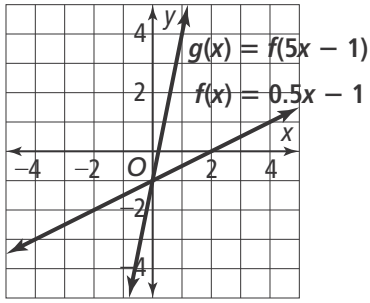
3-3 Reteach to Build Understanding

Transforming Linear Functions

1. The graphs show how the function *g* relates to the parent function *f*. Draw lines from each statement to the graph it describes.







The value of *k* is 2, so the graph translates 2 units right.

The value of *k* is 5, so the slope is scaled by a factor of 5.

The value of *k* is 4, so the graph translates 4 units up.

2. Margaret identified the different transformations of graphs. She has made two mistakes. Identify and correct her errors.

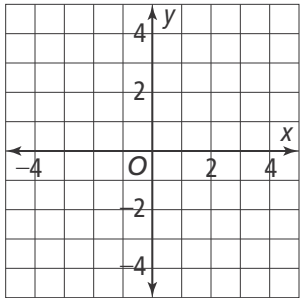
Parent Function	Equation of Transformation	Margaret's Identification	Mistake	Correct Identification
$f(x) = 2x - 7$	$g(x) = f(x - 2)$	Vertical translation		
$f(x) = 2x - 7$	$g(x) = -2f(x)$	Vertical stretch		

3. Consider $f(x) = x + 2$. If $g(x) = 3f(x)$, how does the graph of *g* compare with the graph of *f* ? Complete the work.

Step 1: Make a table of values.

x	$f(x) = x + 2$	$g(x) = 3f(x)$
−3	−1	−3
−2	0	0
−1		3
0		
1		

Step 2: Graph the functions.



Since $k > 1$, the graph of *g* is a vertical stretch of the graph of *f*. The slope and the *y*-intercept of the graph are scaled by a factor of _____.