

**LESSON**  
**1-3**

# Inverses of Functions

## Reteach

To find the inverse of a function:

1. Substitute  $y$  for  $f(x)$ .
2. Solve for  $x$  in terms of  $y$ .
3. Switch  $x$  and  $y$ .
4. Replace  $y$  with  $f^{-1}(x)$ .

**Example:**  $f(x) = 6x - 1$

$$y = 6x - 1$$

$$y + 1 = 6x$$

$$\frac{y + 1}{6} = x$$

$$y = \frac{x + 1}{6}$$

$$f^{-1}(x) = \frac{x + 1}{6}$$

Find the inverse function,  $f^{-1}(x)$ , for the function given.

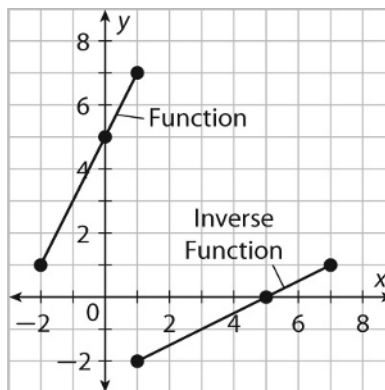
1.  $f(x) = 2x + 5$

2.  $f(x) = -3x + 8$

The inverse of a function switches the  $x$ s and  $y$ s, causing each point on the graph to reflect across the diagonal line  $y = x$ .

**Example**

Function		Inverse Function	
$x$	$y$	$x$	$y$
-2	1	1	-2
0	5	5	0
1	7	7	1



Find the ordered pairs of the inverse function. Graph the function and its inverse.

3.

Function		Inverse Function	
$x$	$y$	$x$	$y$
1	5		
2	2		
3	-1		

