

LESSON

# Reteach

## 3-4 Functions

A **relation** is a set of ordered pairs.  $\{(1, 2), (3, 4), (5, 6)\}$

The **domain** of a relation is the set of all first components of the ordered pairs.  $\{1, 3, 5\}$

The **range** of a relation is the set of all second components of the ordered pairs.  $\{2, 4, 6\}$

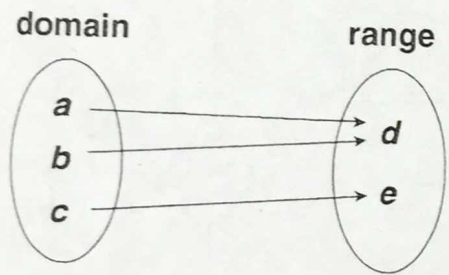
Write the domain and range for each relation.

1. relation:  $\{(-1, 1), (-2, 3), (-3, 5)\}$   
 domain:  $\{-1, \underline{\hspace{2cm}}\}$   
 range:  $\{1, \underline{\hspace{2cm}}\}$

2. relation:  $\{(a, 1), (b, 2), (c, 3)\}$   
 domain:  $\{a, \underline{\hspace{2cm}}\}$   
 range:  $\{1, \underline{\hspace{2cm}}\}$

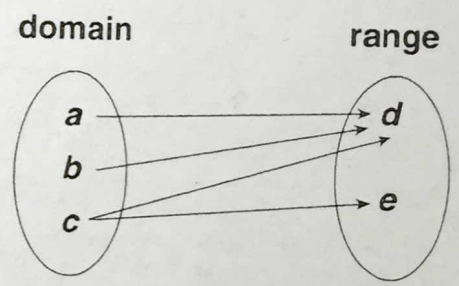
A **function** is a relation in which each element of the domain corresponds to *exactly one* element of the range.

The relation below is a function.



function:  $\{(a, d), (b, d), (c, e)\}$   
*a* has only one partner, *d*.  
*b* has only one partner, *d*.  
*c* has only one partner, *e*.

The relation below is not a function.



relation:  $\{(a, d), (b, d), (c, d), (c, e)\}$   
*a* has only one partner, *d*.  
*b* has only one partner, *d*.  
*c* has two partners, *d* and *e*.

Tell if each relation is a function. Explain.

3. domain range

\_\_\_\_\_

\_\_\_\_\_

4. domain range

\_\_\_\_\_

\_\_\_\_\_

LESSON

**Reteach**

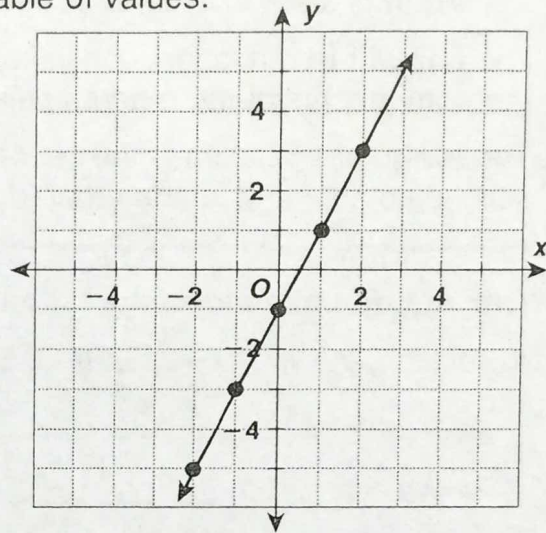
**3-4 Functions (continued)**

From a given rule for a relation, you can write a table of values.

Choose convenient  $x$ -values (domain or input).  
Get corresponding  $y$ -values (range or output).

$y = 2x - 1$

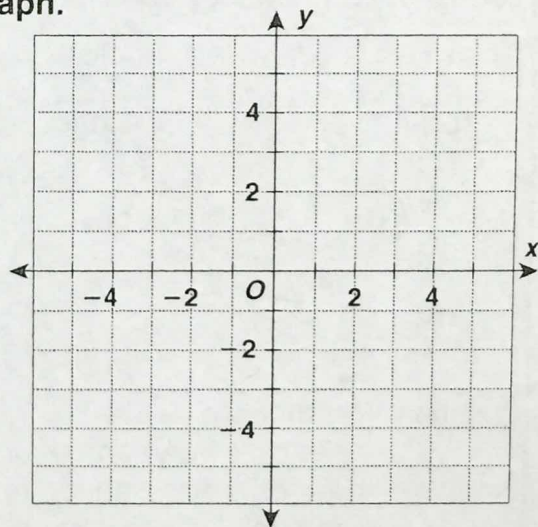
$x$	$2x - 1$	$y$
-2	$2(-2) - 1 = -5$	-5
-1	$2(-1) - 1 = -3$	-3
0	$2(0) - 1 = -1$	-1
1	$2(1) - 1 = 1$	1
2	$2(2) - 1 = 3$	3



Write a table of values for each function and graph.

5.  $y = x - 1$

$x$	$x - 1$	$y$
-2	$-2 - 1 = -3$	-3
-1	$-1 - 1 =$	
0	$-1 =$	
1	$-1 =$	
2	$-1 =$	



6.  $y = 2x + 1$

$x$	$2x + 1$	$y$
-2	$2( ) + 1 =$	
-1		
0		
1		
2		

