

# 9 Chapter Review

## Review Key Vocabulary

input, p. 368  
output, p. 368  
function, p. 368

mapping diagram, p. 368  
function rule, p. 374  
input-output table, p. 380

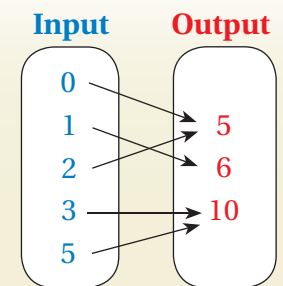
graph, p. 388  
linear function, p. 394

## Review Examples and Exercises

### 9.1 Mapping Diagrams (pp. 366–371)

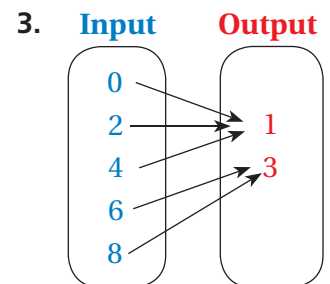
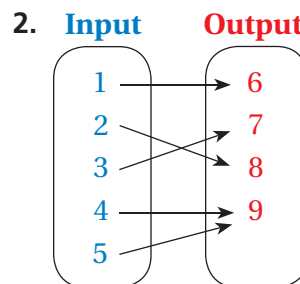
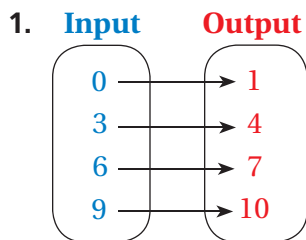
List the ordered pairs shown in the mapping diagram.

••• The ordered pairs are (0, 5), (1, 6), (2, 5), (3, 10), and (5, 10).



### Exercises

List the ordered pairs shown in the mapping diagram.



Draw a mapping diagram of the set of ordered pairs.

4. (1, 30), (2, 60), (3, 90), (4, 120)

5. (0, 6), (1, 7), (2, 7), (3, 8), (4, 8)

### 9.2 Functions as Words and Equations (pp. 372–377)

What is the value of  $y = 3x + 4$  when  $x = 8$ ?

$$\begin{aligned} y &= 3x + 4 && \text{Write the equation.} \\ &= 3(8) + 4 && \text{Substitute 8 for } x. \\ &= 28 && \text{Simplify.} \end{aligned}$$

••• When  $x = 8$ ,  $y = 28$ .

## Exercises

Find the value of  $y$  for the given value of  $x$ .

6.  $y = 9x$ ;  $x = 5$

7.  $y = x - 2$ ;  $x = 9$

8.  $y = 2x - 3$ ;  $x = 4$

9.  $y = 5x + 4$ ;  $x = 2$

10.  $y = 9x + 2$ ;  $x = \frac{2}{3}$

11.  $y = \frac{x}{3} + 5$ ;  $x = 6$

Tell whether  $(x, y) = (2, 5)$  is a solution of the equation.

12.  $y = x + 4$

13.  $y = 4x - 4$

14.  $y = 2x + 1$

### 9.3 Input-Output Tables (pp. 378–383)

Write an equation for the function. Then copy and complete the table.

The output is 6 more than the input.

Input, $x$	1	3	5	7
Output, $y$				

••• An equation is  $y = x + 6$ .

$y = x + 6$	→	Input, $x$	1	3	5	7
		Output, $y$	7	9	11	13

## Exercises

Write an equation for the function. Then copy and complete the table.

15. The output is 8 times the input.

Input, $x$	1	3	5	7
Output, $y$				

16. The output is 2 less than the input.

Input, $x$	2	4	6	8
Output, $y$				

Write an equation for the function shown by the table.

17.

Input, $x$	1	2	3	4
Output, $y$	7	14	21	28

18.

Input, $x$	5	7	9	11
Output, $y$	2	4	6	8

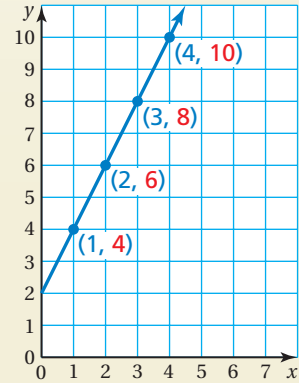
## 9.4 Graphs (pp. 386–391)

Graph  $y = 2x + 2$ .

Make an input-output table.  
Use the values 1, 2, 3, and 4 for  $x$ .

$x$	$y = 2x + 2$	$y$	$(x, y)$
1	$y = 2(1) + 2$	4	(1, 4)
2	$y = 2(2) + 2$	6	(2, 6)
3	$y = 2(3) + 2$	8	(3, 8)
4	$y = 2(4) + 2$	10	(4, 10)

Plot the ordered pairs. Draw a line through the points.



### Exercises

Graph the function.

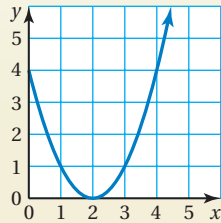
19.  $y = x + 3$

20.  $y = 5x$

21.  $y = 3x + 3$

## 9.5 Analyzing Graphs (pp. 392–397)

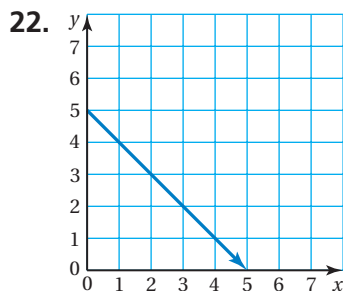
Does the graph represent a linear function? Explain.



∴ The graph is not a straight line. So, the graph does *not* represent a linear function.

### Exercises

Does the graph or table represent a linear function? Explain.



23. 

Input, $x$	Output, $y$
0	0
1	2
2	4
3	6

