LESSON 1.8
Study Guide

GOAL
Represent functions as graphs

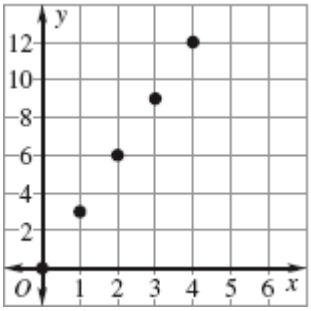
EXAMPLE 1
Graph a function

Graph the function $y = 3x$ with domain 0, 1, 2, 3, and 4

Solution
STEP 1 Make an input-output table.

x	0	1	2	3	4
y	0	3	6	9	12

STEP 2 Plot a point for each ordered pair (x, y).



Exercises for Example 1

Graph the function.

1. $y = \frac{1}{2}x + 3$

   Domain: 0, 2, 4, 6, and 8

2. $y = 4x - 4$

   Domain: 1, 2, 3, 4, and 5

3. $y = -\frac{3}{4}x + 6$

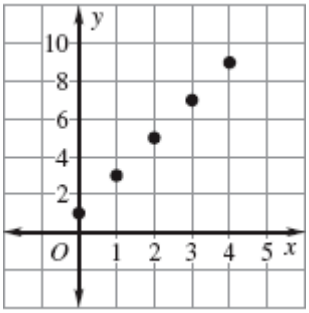
   Domain: 0, 4, 8, 12, and 16

4. $y = -2x + 7$

   Domain: 1, 2, 3, 4, and 5

EXAMPLE 2
Write a function rule for a graph

Write a rule for the function represented by the graph. Identify the domain and the range of the function



Solution

STEP 1 Make a table for the graph.

x	0	1	2	3	4
y	1	3	5	7	9

STEP 2 Find a relationship between the inputs and outputs. Notice from the table that each output value is 1 more than twice the corresponding input value

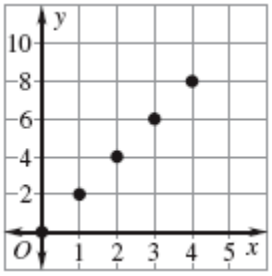
STEP 3 Write a function rule that describes the relationship: $y = 2x + 1$.

A rule for the function is $y = 2x + 1$. The domain of the function is 0, 1, 2, 3,
and 4. The range is 1, 3, 5, 7, and 9.

Exercises for Example 2

Write a rule for the function represented by the graph. Identify the domain and the range of the function.

5.



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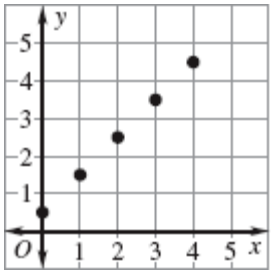
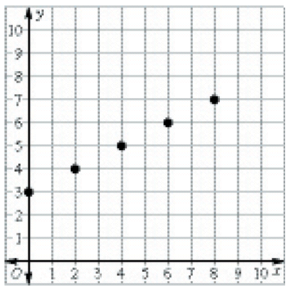
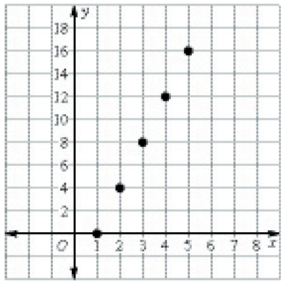


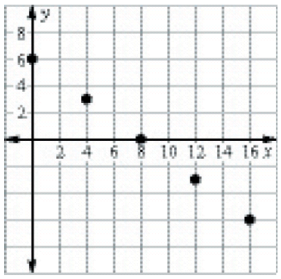
Answer Key

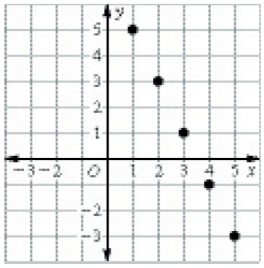
Lesson 1.8

Study Guide

1. 

2. 

3. 

4. 

5. $y = 2x$; domain: 0, 1, 2, 3, and 4; range 0, 2, 6, and 8

6. $y = x + \frac{1}{2}$; domain: 0, 1, 2, 3, and 4; range 0.5, 1.5, 2.5, 3.5, 4.5