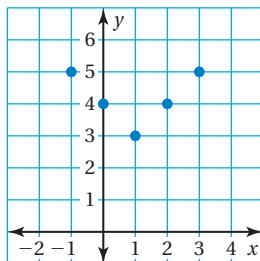


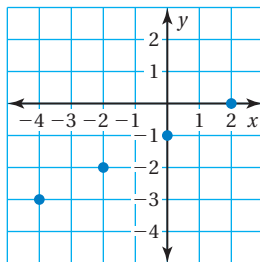
# 5 Chapter Test



1. Find the domain and range of the function represented by the graph.



3. Use the graph to write a linear function that relates  $y$  to  $x$ .



2. Graph the function. Is the domain discrete or continuous?

Minutes, $x$	Gallons, $y$
0	60
5	45
10	30
15	15

4. Does the table represent a *linear* or *nonlinear* function? Explain.

$x$	0	2	4	6
$y$	8	0	-8	-16

Evaluate the function when  $x = -3, 0,$  and  $6$ .

5.  $f(x) = 9x - 10$

6.  $g(x) = 2.5x + 5$

7.  $h(x) = 15 - 3x$

8. Compare the graph of  $h(x) = 5x + 2$  to the graph of  $f(x) = 5x$ .

9. Compare the graph of  $y = |x + 3| - 2$  to the graph of  $y = |x|$ .

10. Graph  $f(x) = \begin{cases} -x, & \text{if } x \leq 0 \\ x + 5, & \text{if } x > 0 \end{cases}$ . Describe the domain and range.

Write an equation for the  $n$ th term of the arithmetic sequence. Then find  $a_{25}$ .

11. 6, 12, 18, 24, ...

12. -6, -5, -4, -3, ...

13. 3, 1, -1, -3, ...

14. **FOOD DRIVE** You are putting cans of food into boxes for a food drive. One box holds 30 cans of food. Write a linear function using function notation that represents the number of cans of food that will fit in  $x$  boxes. Is the domain discrete or continuous?

15. **SEATING** The first row of a theater has 20 seats. Each row after the first has two more seats than the row before it. Write an equation for the number of seats in the  $n$ th row. How many seats are in row 20?



16. **SURFACE AREA** A function relates the surface area  $S$  (in square inches) of a cube to the side length  $x$  (in inches) of the cube. Is the function linear or nonlinear? Explain.