

LESSON
6-3

Practice B
Piecewise Functions

Evaluate each piecewise function for $x = -8$ and $x = 5$.

1. $f(x) = \begin{cases} 2x & \text{if } x < 0 \\ 0 & \text{if } x \geq 0 \end{cases}$

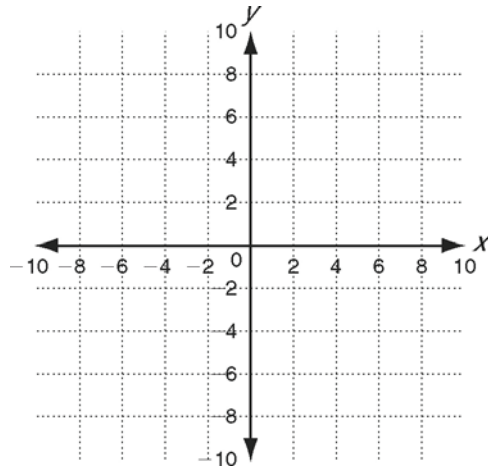
2. $g(x) = \begin{cases} 2 - x & \text{if } x \leq 5 \\ -x^2 & \text{if } 5 < x < 8 \\ 6 & \text{if } 8 \leq x \end{cases}$

3. $h(x) = \begin{cases} 2x + 4 & \text{if } x \leq -8 \\ -1 & \text{if } -8 < x < 5 \\ x^2 & \text{if } 5 \leq x \end{cases}$

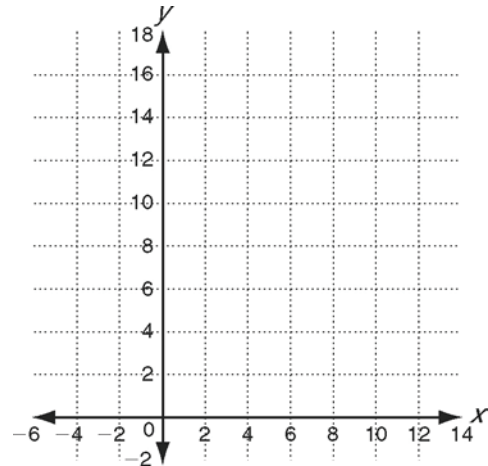
4. $k(x) = \begin{cases} 15 & \text{if } x \leq -5 \\ x & \text{if } -5 < x < 1 \\ 7 - \frac{x}{2} & \text{if } 1 < x \end{cases}$

Graph each function.

5. $f(x) = \begin{cases} 6 & \text{if } x < -2 \\ 3x & \text{if } -2 \leq x \end{cases}$



6. $g(x) = \begin{cases} 12 - x & \text{if } x \leq 5 \\ x + 2 & \text{if } 5 < x \end{cases}$



Solve.

7. An airport parking garage costs \$20 per day for the first week. After that, the cost decreases to \$17 per day.

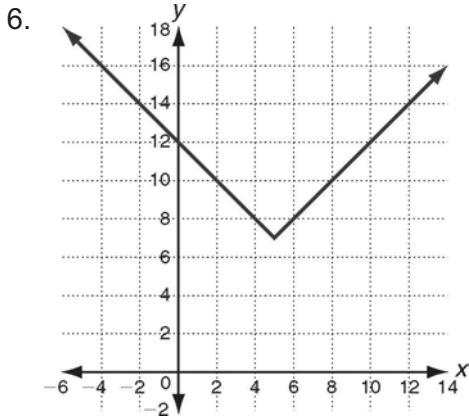
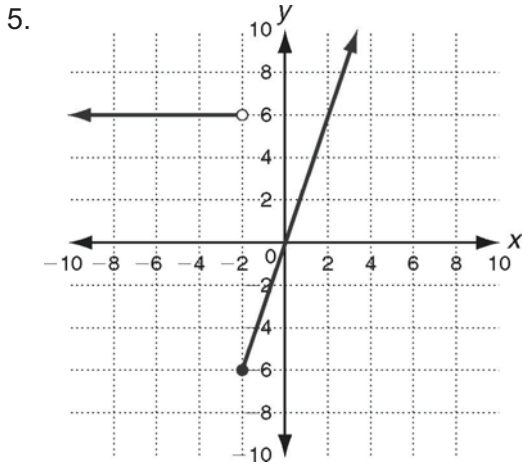
a. Write a piecewise function for the cost of parking a car for x days.

b. What is the cost to park for 10 days?

c. Ms. Anderson went on two trips. On the first, she parked at the garage for 5 days; on the second, she parked at the garage for 8 days. What was the difference in the cost of parking between the two trips?

Practice B

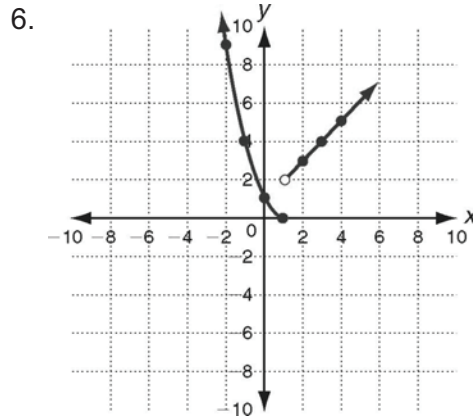
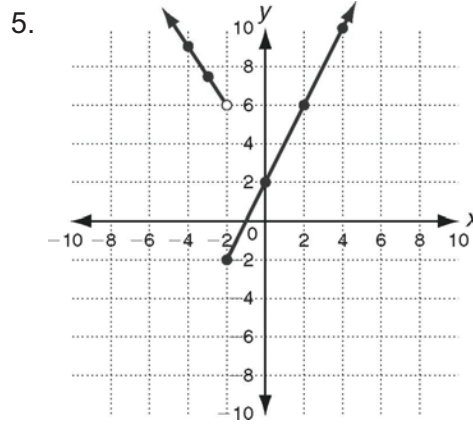
1. -16, 0 2. 10, -3
 3. -12, 25 4. $15, 4\frac{1}{2}$



7. a. $f(x) = \begin{cases} 20x & \text{if } x \leq 7 \\ 17x + 21 & \text{if } x > 7 \end{cases}$
 b. \$191
 c. \$57

Practice C

1. 8, 8, 17 2. -1.84, -2, 24
 3. 11, 2, 210 4. -5.6, 0, -14



7. a. $f(x) = \begin{cases} 25 & \text{if } x \leq 6 \\ 4x + 1 & \text{if } x > 6 \end{cases}$
 b. \$57

Reteach

1. 2; 6 2. -2; 7; 4; 14
 3. $p(-2) = 1; p(4) = 11$ 4. (1, -2); (1, -3)

x	$g(x) = 2x$	$g(x) = x - 4$
-2	$-2(-2) = 4$	
-1	$-2(-1) = 2$	
0	$-2(0) = 0$	
1	$-2(1) = -2$	$1 - 4 = -3$
2		$2 - 4 = -2$
3		$3 - 4 = -1$
4		$4 - 4 = 0$