LESSON **Practice B**

9-2 *Piecewise Functions*

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

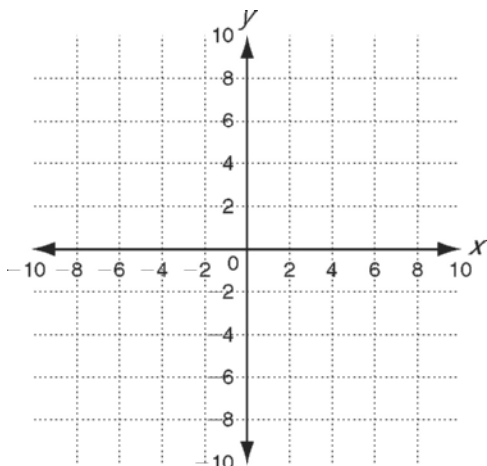1. $f(x) = \begin{cases} 2x & \text{if } x < 0 \\ 0 & \text{if } x \geq 0 \end{cases}$

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

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_____

3. $h(x) = \begin{cases} 2x + 4 & \text{if } x \leq -8 \\ -1 & \text{if } -8 < x < 5 \\ x^2 & \text{if } 5 \leq x \end{cases}$
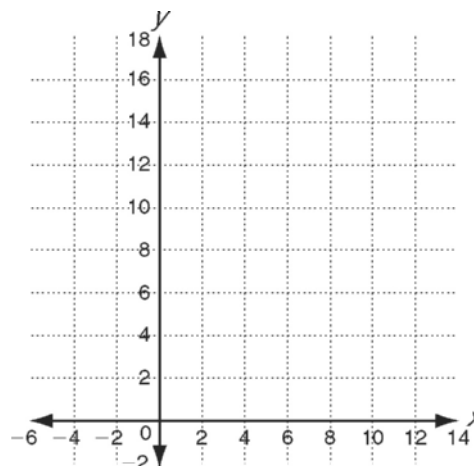
4. $k(x) = \begin{cases} 15 & \text{if } x \leq -5 \\ x & \text{if } -5 < x < 1 \\ 7 - \dfrac{x}{2} & \text{if } 1 < x \end{cases}$

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_____

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? _____

Holt Algebra 2

LESSON 9-2

Practice A

1. a.

Admission Prices	
Age	Price ($)
Under 5	Free
5–14	25
15 and over	80

b. Children less than 5 years of age get in free. Children between the ages of 5 and 14 pay $25. Those 15 and over pay $80.

2. a.

Dumpster Rental Fees	
Days	Fee ($)
Up to 4 days	400
More than 4 days and up to 8 days	600
More than 8 days and up to 14 days	800

b. A dumpster costs $400 for up to 4 days, $600 for more than 4 days and up to 8 days, and $800 for more than 8 days up to 14 days.

3. 10, −1
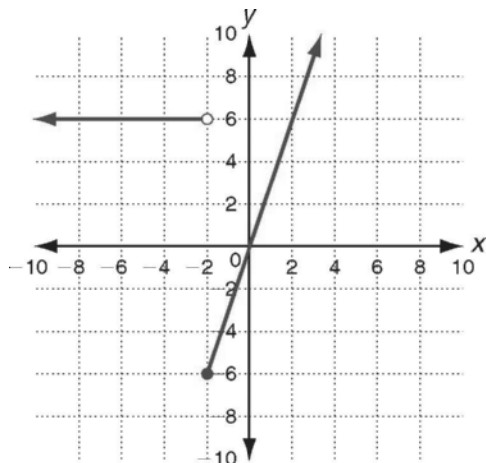
4. −10, −3

5. 5, 2
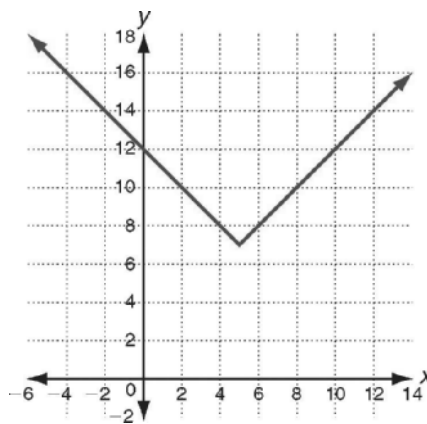
6. −12, 28

Practice B

1. −16, 0

2. 10, −3

3. −12, 25

4. $15, 4\frac{1}{2}$

5.

6.

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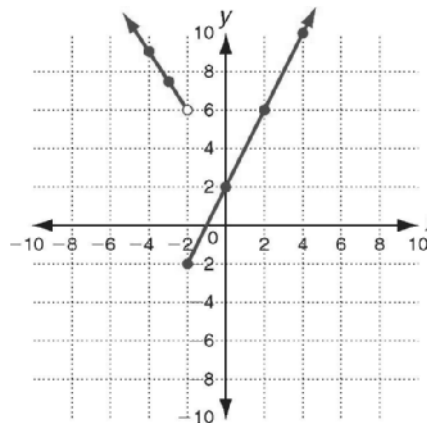
b. $191

c. $57

Practice C
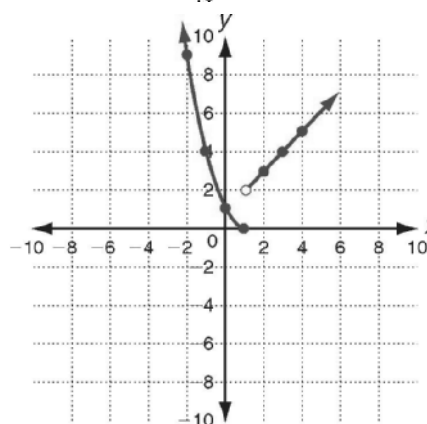
1. 8, 8, 17

2. −1.84, −2, 24

3. 11, 2, 210

4. −5.6, 0, −14

5.

6.

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

b. $57