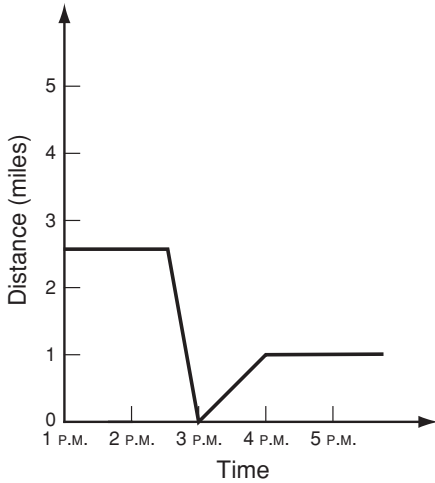


CHAPTER 9 **Chapter Test**
Form A

Select the best answer.

1. The graph below shows how far Andrea was from her home in miles from 1 P.M. to 5 P.M. Based on the graph, which statement is true?



- A Andrea was at home at 3 P.M.
 B Andrea was not at home at 3 P.M.
2. Which words could be represented by the function $g(s) = 3s$?
- A A balloon rises 1 foot per second.
 B A balloon rises 3 feet per second.
3. Which function could represent the data in the table below?

x	-5	0	2	5
$f(x)$	-2	3	5	8

- A $f(x) = -2$
 B $f(x) = x - 3$
 C $f(x) = x + 3$
4. Evaluate $f(x) = \begin{cases} 2x & \text{if } x \leq 0 \\ x - 2 & \text{if } x > 0 \end{cases}$ at $x = 0$.
- A $f(0) = -2$
 B $f(0) = 0$

5. The cost to deliver a package that weighs less than or equal to 5 pounds is \$2.00. If a package weighs greater than 5 pounds and less than or equal to 10 pounds, the cost is \$10.00. For packages heavier than 10 pounds, the cost is \$20.00. Which function best represents the cost of shipping a package?

A $c(p) = \begin{cases} 0 & \text{if } 0 \leq p \leq 5 \\ 5 & \text{if } 5 < p \leq 10 \\ 10 & \text{if } p > 10 \end{cases}$

B $c(p) = \begin{cases} 2 & \text{if } 0 \leq p < 5 \\ 10 & \text{if } 5 \leq p < 10 \\ 20 & \text{if } p \geq 10 \end{cases}$

C $c(p) = \begin{cases} 2 & \text{if } 0 \leq p \leq 5 \\ 10 & \text{if } 5 < p \leq 10 \\ 20 & \text{if } p > 10 \end{cases}$

6. Given $f(x) = \begin{cases} 3x & \text{if } x > 0 \\ x - 2 & \text{if } x \leq 0 \end{cases}$, which is the rule for $g(x)$, a vertical translation of $f(x)$ 4 units down?

A $g(x) = \begin{cases} 3x - 12 & \text{if } x > 0 \\ x - 6 & \text{if } x \leq 0 \end{cases}$

B $g(x) = \begin{cases} 3x - 4 & \text{if } x > -4 \\ x - 6 & \text{if } x \leq -4 \end{cases}$

C $g(x) = \begin{cases} 3x - 4 & \text{if } x > 0 \\ x - 6 & \text{if } x \leq 0 \end{cases}$

7. $f(x) = 3x + 6$ and $g(x) = \frac{1}{2}f(x)$. What is the y -intercept of $g(x)$?

A (0, 3)

B (0, 12)

Chapter Test

Form A continued

8. $f(x) = \begin{cases} x - 7 & \text{if } x > 0 \\ 2x & \text{if } x \leq 0 \end{cases}$ and

$g(x) = f(3x)$. What is $g(x)$?

A $g(x) = \begin{cases} x - 4 & \text{if } x > 0 \\ 2x + 3 & \text{if } x \leq 0 \end{cases}$

B $g(x) = \begin{cases} 3x - 21 & \text{if } x > 0 \\ 6x & \text{if } x \leq 0 \end{cases}$

C $g(x) = \begin{cases} 3x - 7 & \text{if } x > 0 \\ 6x & \text{if } x \leq 0 \end{cases}$

9. Given $f(x) = 5x - 3$ and $g(x) = 6x + 2$, find $(f + g)(x)$.

A $11x - 1$

B $11x + 5$

10. Given $f(x) = 2x + 5$ and $g(x) = 3x - 4$, find $(gf)(x)$.

A $5x + 1$

B $6x^2 - 20$

C $6x^2 + 7x - 20$

11. Given $f(x) = x - 3$ and $g(x) = 4x$, find $g(f(6))$.

A 3

C 21

B 12

12. Given $f(x) = 3x - 6$ and $g(x) = 5x$, find $g(f(x))$.

A $15x - 6$

B $15x - 30$

13. Which is the inverse of $f(x) = x - 3$?

A $y = \frac{1}{x - 3}$

B $y = -x + 3$

C $y = x + 3$

14. Use composition to determine if $f(x) = 3x$ and $g(x) = -3x$ are inverses.

A No, they are not inverses.

B Yes, they are inverses.

Use constant differences or ratios to determine which parent function would best model the given data set.

15.

x	2	4	6	8	10	12
y	5	10	15	20	25	30

A exponential

B linear

C quadratic

16.

x	-8	-4	0	4	8	16
y	0	1	3	6	10	15

A exponential

B linear

C quadratic

Answer Key Algebra 2

CHAPTER 9

Chapter Test Form A: Multiple Choice

- | | |
|------|-------|
| 1. A | 9. A |
| 2. B | 10. C |
| 3. C | 11. B |
| 4. B | 12. B |
| 5. C | 13. C |
| 6. C | 14. A |
| 7. A | 15. B |
| 8. C | 16. C |