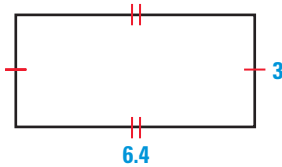


# Chapter Standardized Test

**TEST-TAKING STRATEGY** Avoid spending too much time on one question. Skip questions that are too difficult for you, and spend no more than a few minutes on each question.

1. **MULTIPLE CHOICE** What is the average speed of a car that traveled 209.2 km in 2 hours?
- (A) 20.92 km/h (B) 104.6 km/h  
(C) 20.92 h/km (D) 104.6 h/km  
(E) 70 mi/h

2. **MULTIPLE CHOICE** What is the perimeter of the figure?



- (A) 18.8 (B) 19.2 (C) 27.6  
(D) 38.4 (E) 192
3. **MULTIPLE CHOICE** What is the value of the expression  $[(5 \cdot 9) \div x] + 6$  when  $x = 3$ ?
- (A) 5 (B) 15 (C) 18  
(D) 21 (E) 45
4. **MULTIPLE CHOICE** If  $4t + 5 = 21$ , then  $t^2 - 3 = ?$ .
- (A) 6 (B) 13 (C) 18  
(D) 22 (E) 39
5. **MULTIPLE CHOICE** In the table, what is the value of  $m$ ?

$b$	$7b - 2$
2	12
4	26
$m$	47

- (A) 6 (B) 7 (C) 8  
(D) 40 (E) 49
6. **MULTIPLE CHOICE** What is the value of  $6 \cdot (15 + 8) - [(2 \cdot 7) - 4]^2$ ?
- (A) -462 (B) 38 (C) 62  
(D) 102 (E) 134

**QUANTITATIVE COMPARISON** In Exercises 7–9, choose the statement below that is true about the given numbers.

- (A) The number in column A is greater.  
(B) The number in column B is greater.  
(C) The two numbers are equal.  
(D) The relationship cannot be determined from the information given.

	COLUMN A	COLUMN B
7.	$3 \cdot 5 - 4$	$3 \cdot (5 - 4)$
8.	$2x \div 5 + 7$	$2x \div (5 + 7)$
9.	$42 - (5^2 + 2)$	$42 - (5^2) + 2$

10. **MULTIPLE CHOICE** What is the area of a square with sides that are 6.3 cm in length?
- (A)  $3.969 \text{ m}^2$  (B)  $25.2 \text{ cm}$   
(C)  $25.2 \text{ cm}^2$  (D)  $39.69 \text{ cm}$   
(E)  $39.69 \text{ cm}^2$
11. **MULTIPLE CHOICE** Which of the following numbers is a solution of the equation  $50 - x^2 = 1$ ?
- (A) 5 (B) 6 (C) 7 (D) 8 (E) 9
12. **MULTIPLE CHOICE** Which of the following numbers is a solution of the inequality  $20 - x \geq x + 2$ ?
- (A) 9 (B) 9.5 (C) 10 (D) 10.5 (E) 11
13. **MULTIPLE CHOICE** What is the value of  $3.4x - 2.3y$ , when  $x = 11$  and  $y = 12$ ?
- (A) 1.1 (B) 2.1 (C) 9 (D) 9.8 (E) 28.7
14. **MULTIPLE CHOICE** You have decided to save \$6 a week to buy an electric guitar costing \$150. Which expression shows how much money you still need to save after  $n$  weeks?
- (A)  $150 + 6n$  (B)  $150 - 6n$   
(C)  $(150 + 6)n$  (D)  $(150 - 6)n$   
(E)  $150n + 6n$

15. **MULTIPLE CHOICE** Which algebraic expression is a translation of “five times the difference of eight and a number  $x$ ”?

(A)  $5(8 - x)$       (B)  $x - 5 \cdot 8$       (C)  $5 \cdot 8 - x$       (D)  $5 - 8x$       (E)  $5x - 8$

16. **MULTIPLE CHOICE** The number of students on the football team is two more than three times the number of students on the basketball team. If the basketball team has  $y$  students, how many students are on the football team?

(A)  $3y$       (B)  $3y - 2$       (C)  $6y$       (D)  $2y + 3$       (E)  $2 + 3y$

17. **MULTIPLE CHOICE** Which equation represents the function in the table?

Input $x$	Output $y$
0	3
1	4
2	7

(A)  $y = x + 5$       (B)  $y = 2x + 3$   
 (C)  $y = x^2 + 5$       (D)  $y = x^2 + 3$   
 (E)  $y = 3x + 1$

18. **MULTIPLE CHOICE** Which of the following represents a function?

I.

Input	Output
1	4
2	4
3	6
4	6

II.

Input	Output
1	3
2	3
3	4
4	4

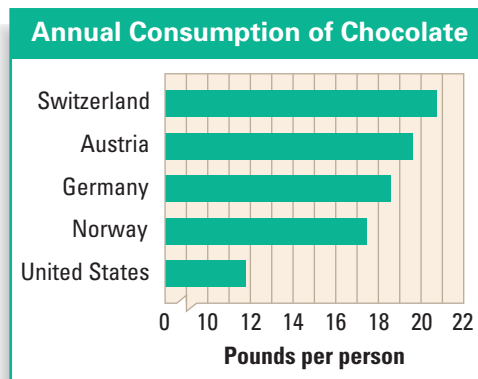
III.

Input	Output
1	3
1	-3
2	4
3	5

(A) All      (B) I and II      (C) I and III      (D) II and III      (E) None

**MULTI-STEP PROBLEM** Use the graph to compare the amount of chocolate eaten in different countries.

19. About how much more chocolate per person is consumed in Switzerland than in the United States?
20. About how much more chocolate per person is consumed in Norway than in the United States?
21. How could the bar graph be misleading?
22. Draw a bar graph representing the same information that would not be misleading.



► Source: Chocolate Manufacturers Association

**MULTI-STEP PROBLEM** If you place one marble in a measuring cup that contains 200 milliliters of water, the measure on the cup indicates that there is a one millimeter increase in volume. How much does the volume increase when you place from 1 to 10 marbles in the measuring cup?

23. Write an equation to represent the function.
24. Complete an input-output table for the function with domain 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.
25. Describe the domain and range of the function whose values are shown in the table.
26. Graph the data in the table. Use this graph to graph the function.