CHAPTER 2

Chapter Standardized Test

TEST-TAKING STRATEGY If you can, check an answer using a method that is different from the one you used originally, to avoid making the same mistake twice.

1. MULTIPLE CHOICE Which integer is between $-\frac{55}{4}$ and $-\frac{37}{3}$? **A**

(A) -13 (B) -12 (C) 2

(D) $\frac{7}{3}$ (E) $-\frac{69}{5}$

2. MULTIPLE CHOICE What is the value of $|x| + |y| - 10$ when $x = -9$ and $y = 2$? **D**

(A) 17 (B) -43 (C) -1

(D) 1 (E) 21

3. MULTIPLE CHOICE Which of the following is a counterexample that proves the statement $|x| = -x$ is *not* true? **E**

(A) $x = -9.5$ (B) $x = -2$ (C) $x = -\frac{1}{2}$

(D) $x = 0$ (E) $x = 4.7$

4. MULTIPLE CHOICE What is the value of the expression $-9 + 3 + (-14)$? **B**

(A) -26 (B) -20 (C) -8

(D) -2 (E) 26

QUANTITATIVE COMPARISON In Questions 5–7, choose the statement that is true about the given quantities.

(A) The quantity in column A is greater.

(B) The quantity in column B is greater.

(C) The two quantities are equal.

(D) The relationship cannot be determined from the given information.

	Column A	Column B	
5.	$2 - 5 + (-3)$	$2 + (-5) - 3$	**C**
6.	$-\frac{7}{9} - \frac{1}{3}$	$-\frac{11}{12} - \frac{1}{6}$	**B**
7.	x	$-2x$	**D**

8. MULTIPLE CHOICE What is the value of the expression $-4 - 6 - (-10)$? **D**

(A) -20 (B) -12 (C) -8

(D) 0 (E) 12

9. MULTIPLE CHOICE What is the value of the expression $9 - (-13) + (-17) + (-10)$? **C**

(A) -41 (B) -31 (C) -5

(D) 5 (E) 15

10. MULTIPLE CHOICE Find the sum. **C**

$$\begin{bmatrix} -5 & -4 \\ 2 & -4 \\ 1 & -3 \end{bmatrix} + \begin{bmatrix} 8 & 9 \\ -6 & 1 \\ -1 & 4 \end{bmatrix} = \underline{?}$$

(A) $\begin{bmatrix} 3 & 5 \\ -6 & -3 \\ 0 & 1 \end{bmatrix}$ (B) $\begin{bmatrix} -3 & 5 \\ 4 & -3 \\ 0 & -1 \end{bmatrix}$

(C) $\begin{bmatrix} 3 & 5 \\ -4 & -3 \\ 0 & 1 \end{bmatrix}$ (D) $\begin{bmatrix} 3 & 5 \\ -4 & -3 \\ 0 & -1 \end{bmatrix}$

(E) None of these

11. MULTIPLE CHOICE Find the difference. **E**

$$\begin{bmatrix} -1 & 3 \\ -6 & 4 \\ 2 & -5 \end{bmatrix} - \begin{bmatrix} -7 & 3 \\ 2 & 6 \\ 0 & -8 \end{bmatrix} = \underline{?}$$

(A) $\begin{bmatrix} 6 & 0 \\ -8 & -2 \\ 2 & -3 \end{bmatrix}$ (B) $\begin{bmatrix} -8 & 0 \\ -8 & -2 \\ 2 & 3 \end{bmatrix}$

(C) $\begin{bmatrix} 6 & 0 \\ -8 & 2 \\ -2 & -3 \end{bmatrix}$ (D) $\begin{bmatrix} 6 & 0 \\ -8 & -2 \\ 0 & 3 \end{bmatrix}$

(E) None of these

12. MULTIPLE CHOICE $-\frac{1}{2} \cdot \frac{-2}{3} \cdot \frac{3}{-4} \cdot \frac{4}{5} = \underline{?}$ **B**

(A) $-\frac{24}{60}$ (B) $-\frac{1}{5}$ (C) $-\frac{1}{6}$

(D) $\frac{1}{5}$ (E) $\frac{5}{6}$

13. MULTIPLE CHOICE What is the value of $-2m^6 \div 4m^3$ when $m = -2$? **D**

Ⓐ -32 Ⓑ -16 Ⓒ -4 Ⓓ 4 Ⓔ 16

QUANTITATIVE COMPARISON In Questions 14 and 15, choose the statement that is true about the given quantities.

Ⓐ The quantity in column A is greater.

Ⓑ The quantity in column B is greater.

Ⓒ The two quantities are equal.

Ⓓ The relationship cannot be determined from the given information.

	Column A	Column B	
14.	$(-10)^4$	$(-10)^5$	**A**
15.	$-3 \cdot 24 \div (-9)$	$-12 \cdot 8 \div 6$	**A**

16. MULTIPLE CHOICE The expression $6(x + 3) - 2(4 - x)$ can be simplified to $\underline{?}$. **B**

Ⓐ $5x + 5$ Ⓑ $8x + 10$ Ⓒ $5x - 5$ Ⓓ $8x + 1$ Ⓔ $4x + 10$

17. MULTIPLE CHOICE What is the value of $\frac{4p + 6pq}{p^2q}$ when $p = -2$ and $q = -3$? **D**

Ⓐ $-\frac{11}{3}$ Ⓑ $\frac{28}{12}$ Ⓒ 2 Ⓓ $-\frac{7}{3}$ Ⓔ $\frac{11}{3}$

18. MULTIPLE CHOICE On March 1, you own 15.5 shares of mutual fund stock that are worth \$142.91. On May 1, the shares are worth \$135.16. What was the change in the price per share of stock? **B**

Ⓐ $-\$7.75$ Ⓑ $-\$.50$ Ⓒ $-\$.05$ Ⓓ $\$.05$ Ⓔ $\$.50$

MULTIPLE CHOICE In Questions 19 and 20, you randomly choose a marble from a bag holding 5 red, 7 blue, and 13 yellow marbles.

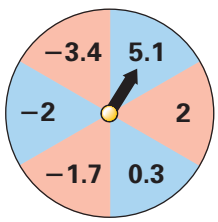
19. What is the probability that you choose a blue marble? **C**

Ⓐ 0.2 Ⓑ 0.07 Ⓒ 0.28 Ⓓ 0.52 Ⓔ 0.7

20. What are the odds that you choose a red marble? **A**

Ⓐ 1 to 4 Ⓑ 5 to 13 Ⓒ 7 to 13 Ⓓ 5 to 7 Ⓔ 13 to 5

21. MULTI-STEP PROBLEM The spinner at the right is evenly divided into 6 sections. Each of the players spins the spinner. Their results are added together. Player A wins if the sum is negative. Otherwise, Player B wins.



a. List all the possible outcomes for one pair of spins. **See margin.**

b. What are the odds of Player A winning? **17 to 19**

c. CRITICAL THINKING A game is fair when all the players have the same probability of winning. Is this a fair game? Explain your reasoning. **See margin.**

d. CREATING A FAIR GAME Create your own game like the one described above. Your game should be fair. You may change the numbers on the spinner or the rules of the game. Describe your game and explain why it is fair. **See margin.**