

# Chapter Standardized Test

**TEST TAKING STRATEGY** As soon as the testing time begins, start working. Keep moving and stay focused on the test.

- MULTIPLE CHOICE** Solve  $4 - x = -5$ .  
 (A) -1      (B) 1      (C) -9  
 (D) 9      (E)  $\frac{5}{4}$
- MULTIPLE CHOICE** Which of these steps can you use to solve the equation  $\frac{3}{5}x = 12$ ?  
 I. Multiply by  $\frac{3}{5}$ .      II. Divide by  $\frac{5}{3}$ .  
 III. Divide by  $\frac{3}{5}$ .      IV. Multiply by  $\frac{5}{3}$ .  
 (A) I only      (B) III only  
 (C) I and II      (D) III and IV  
 (E) None of the above
- MULTIPLE CHOICE** The perimeter of the rectangle is 30. Find the value of  $x$ .  

  
 (A) 3      (B)  $\frac{31}{4}$       (C) 10  
 (D) 4      (E) 31
- MULTIPLE CHOICE** If  $9x - 4(3x - 2) = 4$ , then  $x = ?$ .  
 (A)  $\frac{4}{3}$       (B)  $-\frac{4}{3}$       (C) -4  
 (D) 4      (E) 2
- MULTIPLE CHOICE** How many solutions does the equation  $-2y + 3(4 - y) = 12 - 5y$  have?  
 (A) none      (B) one      (C) two  
 (D) three      (E) an infinite number
- MULTIPLE CHOICE** Solve the equation  $\frac{1}{3}(27x + 18) = 12 + 6(x - 4)$ .  
 (A) -6      (B) -3      (C) -2  
 (D) 2      (E) 14
- MULTIPLE CHOICE** If  $0.75t = 12$ , then  $t = ?$ .  
 (A) 2      (B) 8      (C) 9  
 (D) 12      (E) 16
- MULTIPLE CHOICE** You sell hot dogs for \$1.25 each. Which equation can you use to find how many hot dogs you sold if you have \$60 from selling hot dogs?  
 (A)  $\frac{x}{60} = 1.25$       (B)  $60x = 1.25$   
 (C)  $1.25x = 60$       (D)  $\frac{x}{1.25} = 60$   
 (E)  $(1.25)(60) = x$
- MULTIPLE CHOICE** Find the value of  $y$  if  $13.56y - 14.76 = 3(4.12y - 6.72)$ .  
 (A) -4.5      (B) -2.56      (C) -1.2  
 (D) 1.2      (E) 2.70
- MULTIPLE CHOICE** Use the equation  $2(2 - y) = 3x$ . What are the values of  $y$  when  $x = -4, 0, \frac{2}{3}$ , and 3?  
 (A) 4, 2, 1,  $-\frac{5}{2}$       (B) 4,  $\frac{4}{3}$ ,  $\frac{8}{9}$ ,  $-\frac{2}{3}$   
 (C) 8, 2, 1,  $-\frac{5}{2}$       (D) 16, 4, 2, -5  
 (E) -8, -2, -1,  $\frac{5}{2}$
- MULTIPLE CHOICE** The sales tax is 6%. Which is the total charge for your meal before tax if the sales tax came to \$.87?  
 (A) \$14.30      (B) \$5.22      (C) \$6.90  
 (D) \$1.45      (E) \$14.50
- MULTIPLE CHOICE** If  $x = -5$  is a solution of  $2x + tx - 5 = 30$ , what is the value of  $t$ ?  
 (A) -9      (B) -7      (C) -5  
 (D) 3      (E) 9

**QUANTITATIVE COMPARISON** In Exercises 13 and 14, choose the statement that is true about the value of the variable.

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

	Column A	Column B
13.	The value of $b$ in the formula $A = \frac{1}{2}bh$ when $A = 39$ and $h = 6$	The value of $b$ in the formula $A = \frac{1}{2}bh$ when $A = 78$ and $h = 12$
14.	The value of $A$ in the formula $A = \frac{1}{2}bh$ when $h = 32$	The value of $A$ in the formula $A = \frac{1}{2}bh$ when $h = 5$

15. **MULTIPLE CHOICE** Out of 225 people surveyed, 183 said yes. Which equation can you use to estimate how many people would say yes if 600 people were surveyed?

- (A)  $\frac{225}{183} = \frac{x}{600}$
- (B)  $\frac{x}{600} = \frac{183}{225}$
- (C)  $600 = x \cdot \frac{183}{225}$
- (D)  $\frac{225}{600} = \frac{x}{183}$
- (E) none of them

16. **MULTI-STEP PROBLEM** Karim and his three children enjoy ice skating. The town ice skating rink charges \$10.00 for adults and \$6.50 for children per visit. The rink also offers a one-year family membership for \$650.00. The membership offers a family unlimited ice skating throughout the year.

Karim's schedule is so busy that he has at most two days each month to go ice skating with his children. Karim wants to decide whether it is worthwhile for him to purchase the one-year membership.

- a. Let  $r$  represent the number of times Karim's family (Karim and his children) visits the ice skating rink during the year. Write a variable expression for each of the following costs: the cost of one child's visits to the rink during the year, the cost of Karim's visits to the rink during the year, the total cost of the family's visits to the rink during the year.
- b. Karim decides to compare the total cost of the family's visits during the year to the membership cost. Write an equation that models the situation. Then solve the equation.
- c. How much money will Karim lose or save by purchasing the membership if he and his children find the time to visit the skating rink 27 times in the year? if they only visit the skating rink once a month?
- d. *Writing* Based on your results in parts (b) and (c), make a recommendation to Karim. Should he buy the one-year membership with unlimited visits or should he pay for each visit? Explain your reasoning.