Unit 1 Practice TEST and Study Guide

Multiple Choice

Identify the choice that best completes the statement or answers the question.

Find the value of x that completes the statement.

1. $\dfrac{x}{28} = \dfrac{4}{14}$

    a. 98 b. 4 c. 8 d. 2

2. Write 50% as a decimal.

    a. 500 b. 5 c. 0.5 d. 5000

What is an algebraic expression for the word phrase?

3. the difference of r and 3

    a. $\dfrac{r}{3}$ b. $r + 3$ c. $r - 3$ d. $3r$

4. 3 times the sum of b and f

    a. $3 + b + f$ b. $3bf$ c. $3(b + f)$ d. $3b + f$

What is the simplified form of each expression?

5. $13\left[6^2 \div \left(5^2 - 4^2 \right) + 9 \right]$

    a. 585 b. 169 c. 26 d. 181

6. Evaluate $u + xy$, for $u = 18$, $x = 10$, and $y = 8$.

    a. 188 b. 36 c. 98 d. 224

7. Evaluate $(ab)^2$ for $a = 4$ and $b = 3$.

    a. 36 b. 24 c. 81 d. 144

What property is illustrated by each statement?

8. $-2.1 \times 1 = -2.1$

    a. Inverse Property of Multiplication
    b. Multiplication Property of -1 c. Identity Property of Addition d. Identity Property of Multiplication

Simplify each expression.

9. $(7 + 5b) + 1$

    a. $7 + 6b$ b. $8 + 6b$ c. $13b$ d. $8 + 5b$

What is the simplified form of each expression?

10. $-(8d - 3w)$

    a. $8d - 3w$ b. $-8d + 3w$ c. $8d + 3w$
    d. $-8d - 3w$

What is the solution of the equation?

11. $9.5 = 5p$

    a. 9.5 b. 1.9 c. 3.1 d. $\dfrac{1}{5}$

12. $-9 = \dfrac{r}{4}$

    a. 36 b. 13 c. $-\dfrac{9}{4}$ d. -36

What is the solution of the equation?

13. $4.7x + 3.8 = 13.2$

    a. 3.6 b. 3.7 c. 2 d. 3

What is the solution of the equation?

14. $-2 = \dfrac{-5 + z}{-2}$
    a. -1 b. 6   c. 9   d. -4

What is the solution of the equation?

15. $5d - d - 2d + 8 - 3d = 0$
    a. -5 b. $-\dfrac{8}{5}$ c. $\dfrac{8}{3}$ d. 8

What is the solution of the equation?

16. $3(y - 5) + 2 = 5$
    a. 4   b. 7   c. -4 d. 6

What is the solution of the equation?

17. $6 - t = 2t$
    a. $\dfrac{1}{6}$ b. 6   c. $\dfrac{1}{2}$ d. 2

In set builder notation, how do you write the solutions of the inequality?

18. $3x + 10 \geq 4$
    a. $\{x \mid x \geq -2\}$ b. $\{x \mid x \leq 2\}$ c. $\{x \mid x \leq -2\}$
    d. $\{x \mid x \geq 2\}$

19. $-2 - x \geq -1$
    a. $\{x \mid x \leq 1\}$
    b. $\{x \mid x \geq 1\}$

    c. $\{x \mid x \geq -1\}$
    d. $\{x \mid x \leq -1\}$

Short Answer

Write as a fraction in simplest form.

20. 0.76

21. Angela and Neil are going to the movies. They each bought a medium popcorn, and Neil got a small soft drink. Angela had a $5 gift certificate to put toward the cost, and Neil paid the rest, which came to $27.90. A movie ticket costs $10.00 and a medium popcorn costs $5.50. How much does a soft drink cost at the theater?

22. At the grocery store, you buy a carton of milk for $3.90 a loaf of bread for $1.95, and a bag of cookies for $3.05. Find the total cost of the groceries.

What is the solution of each equation? Use mental math.

23. $x + 3 = 17$?

What is the simplified form of each expression?

24. $4(20 + 12) \div (4 - 3)$

What is the solution of the equation?

25. $5(10x - 10) = -5(-4x + 4)$