# **Chapter Test**



## Do you know HOW?

- 1. Write an algebraic expression for the phrase *the quotient of n and 6.*
- **2**. Write a word phrase for -12t + 2.
- **3.** Evaluate the expression  $-(pq)^2 \div (-8)$  for p = 2 and q = 4.
- **4. Dance** The table shows how the total cost of dance classes at a studio depends on the number of classes you take. Write a rule in words and as an algebraic expression to model the relationship.

Number of Classes	Total Cost
1	(1 × 15) + 20
2	(2 × 15) + 20
3	(3 × 15) + 20

**Dance Classes** 

#### Simplify each expression.

5.  $-20 - (-5) \cdot (-2^2)$ 

6. 
$$\left(-\frac{1}{4}\right)^3$$

7. 
$$-\frac{7ab}{a}, a \neq 0$$

- 8. |-25|
- 9.  $\sqrt{\frac{16}{25}}$
- **10.** Is each statement true or false? If false, give a counterexample.
  - **a.** For all real numbers a and b,  $a \cdot b$  is equivalent to  $b \cdot a$ .
  - **b.** For all real numbers *a* and *b*,  $a(b \cdot c) = ab \cdot ac$
- 11. Is the ordered pair (2, -5) a solution to the equation 4 + 3x = -2y? Show your work.
- 12. Order the numbers  $-\frac{7}{8}$ ,  $\frac{7}{4}$ ,  $-1\frac{4}{5}$ , and  $-\frac{13}{16}$  from least to greatest.

**13.** Soccer There are *t* teams in a soccer league. Each team has 11 players. Make a table, write an equation, and draw a graph to describe the total number of players *p* in the league. How many players are on 17 teams?

#### Simplify each expression.

<b>14.</b> $5x^2 - x^2$
<b>15.</b> $12 \div \left(-\frac{3}{4}\right)$
<b>16.</b> $-(-2+6t)$
<b>17.</b> $-3[b - (-7)]$

- Name the subset(s) of the real numbers to which each number belongs.
  - **a.** -2.324 **b.**  $\sqrt{46}$
- 19. Identify each property.

**a.** 
$$a(b + c) = ab + ac$$

**b.** (a + b) + c = a + (b + c)

### Do you UNDERSTAND?

**20.** Is the set of positive integers the same as the set of nonnegative integers? Explain.

· 5 + -9 ÷ 4 + 3 · 15 + -9 ÷ 4 + 9

 $8/1 \div 4 + 9$ 

- 21. Error Analysis Find and correct the error in the work shown at the right.
  - 22. Is the following statement true or false? If the product of three numbers is negative, then all the numbers are negative. If false, give a counterexample.
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- **24. Reasoning** When is the absolute value of a difference equal to the difference of the absolute values? Explain.

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