## 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 $-12 t+2$.
3. Evaluate the expression $-(p q)^{2} \div(-8)$ 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.

## Dance Classes

| Number of Classes | Total Cost |
| :---: | :---: |
| 1 | $(1 \times 15)+20$ |
| 2 | $(2 \times 15)+20$ |
| 3 | $(3 \times 15)+20$ |

## Simplify each expression.

5. $-20-(-5) \cdot\left(-2^{2}\right)$
6. $\left(-\frac{1}{4}\right)^{3}$
7. $-\frac{7 a b}{a}, a \neq 0$
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 $b, a(b \cdot c)=a b \cdot a c$
11. Is the ordered pair $(2,-5)$ a solution to the equation $4+3 x=-2 y$ ? 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.

14. $5 x^{2}-x^{2}$
15. $12 \div\left(-\frac{3}{4}\right)$
16. $-(-2+6 t)$
17. $-3[b-(-7)]$
18. Name the subset(s) of the real numbers to which each number belongs.
a. -2.324
b. $\sqrt{46}$
19. Identify each property.
a. $a(b+c)=a b+a c$
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.
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.
23. Reasoning You notice that $10^{\circ} \mathrm{C}=50^{\circ} \mathrm{F}$, $20^{\circ} \mathrm{C}=68^{\circ} \mathrm{F}$, and $30^{\circ} \mathrm{C}=86^{\circ} \mathrm{F}$. Use inductive reasoning to predict the value in degrees Fahrenheit of $40^{\circ} \mathrm{C}$.
24. Reasoning When is the absolute value of a difference equal to the difference of the absolute values? Explain.
