1-2 Skills Practice Properties of Real Numbers

Name the sets of numbers to which each number belongs.

1. 34
2. -525

3. 0.875
4.
$$\frac{12}{3}$$

5. $-\sqrt{9}$ **6.** $\sqrt{30}$

Name the property illustrated by each equation.

- **7.** $3 \cdot x = x \cdot 3$ **8.** 3a + 0 = 3a
- 9. 2(r+w) = 2r + 2w**10.** 2r + (3r + 4r) = (2r + 3r) + 4r
- **11.** $5y\left(\frac{1}{5y}\right) = 1$ **12.** 15x(1) = 15x
- **13.** 0.6[25(0.5)] = [0.6(25)]0.5**14.** (10b + 12b) + 7b = (12b + 10b) + 7b

Find the additive inverse and multiplicative inverse for each number.

- 15.15 16.1.25
- 17. $-\frac{4}{5}$ **18.** $3\frac{3}{4}$

Simplify each expression.

- **19.** 3x + 5y + 2x 3y**20.** x - y - z + y - x + z
- 22. $a^2 a + 4a 3a^2 + 1$ **21.** -(3g+3h)+5g-10h
- **23.** 3(m-z) + 5(2m-z)**24.** 2x - 3y - (5x - 3y - 2z)
- **26.** $\frac{1}{3}(15d+3c) \frac{1}{2}(8c-10d)$ **25.** 6(2w + v) - 4(2v + 1w)

1-2 Word Problem Practice Properties of Real Numbers

- **1. MENTAL MATH** There are more than 3 million elementary teachers in the U.S. When teaching their students to multiply and learn place value, teachers often show that $54 \times 8 = (50 + 4) \times 8 =$ $(50 \times 8) + (4 \times 8)$. What property is used?
- 4. NUMBER THEORY Consider the following two statements.
 - I. The product of any two rational numbers is always another rational number.
 - II. The product of two irrational numbers is always irrational. Determine if these statements are always, sometimes, or never true. Explain.
- 5. RIGHT TRIANGLES The lengths of the sides of the right triangle shown are related by the formula $c^2 = a^2 + b^2$.



For each set of values for *a* and *b*, determine the value of c. State whether c is a natural number.

b. a = 7, b = 14

c. a = 7, b = 24

2. MODELS What property of real numbers is illustrated by the figure below?



3. VENN DIAGRAMS Make a Venn diagram that shows the relationship between natural numbers, integers, rational numbers, irrational numbers, and real numbers.