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

Find the additive inverse and multiplicative inverse for each number.
15. 15
17. $-\frac{4}{5}$

Simplify each expression.
21. $-(3 g+3 h)+5 g-10 h$
23. $3(m-z)+5(2 m-z)$
25. $6(2 w+v)-4(2 v+1 w)$
16. 1.25
18. $3 \frac{3}{4}$
19. $3 x+5 y+2 x-3 y$
20. $x-y-z+y-x+z$
22. $a^{2}-a+4 a-3 a^{2}+1$
24. $2 x-3 y-(5 x-3 y-2 z)$
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## 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?
2. MODELS What property of real numbers is illustrated by the figure below?

3. 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.
4. 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.
a. $a=5, b=12$
b. $a=7, b=14$
c. $a=7, b=24$

