

Interactive Classroom

Glencoe McGraw-Hill

Pre-Algebra

Chapter 3 Equations

Click the mouse button or press the space bar to continue.

Chapter Menu

- Lesson 3-1** The Distributive Property
- Lesson 3-2** Simplifying Algebraic Expressions
- Lesson 3-3** Solving Equations by Adding or Subtracting
- Lesson 3-4** Solving Equations by Multiplying or Dividing
- Lesson 3-5** Solving Two-Step Equations
- Lesson 3-6** Writing Two-Step Equations
- Lesson 3-7** Sequences and Equations
- Lesson 3-8** Using Formulas

Lesson Menu

Five-Minute Check (over Chapter 2)

Main Ideas and Vocabulary

Key Concept: Distributive Property

Example 1: Use the Distributive Property

Example 2: Real-World Example

Example 3: Simplify Algebraic Expressions

Example 4: Simplify Expressions with Subtraction

Main Ideas

- Use the Distributive Property to write equivalent numerical expressions.
- Use the Distributive Property to write equivalent algebraic expressions.

New Vocabulary

- equivalent expressions

KEY CONCEPT

Distributive Property

Words To multiply a number by a sum, multiply each number inside the parentheses by the number outside the parentheses.

Symbols $a(b + c) = ab + ac$ $(b + c)a = ba + ca$

Examples $3(4 + 2) = 3 \cdot 4 + 3 \cdot 2$ $(5 + 3)2 = 5 \cdot 2 + 3 \cdot 2$

Concepts in Motion

[BrainPOP: Distributive Property](#)

Click here to view!



Chapter
RESOURCES



EXAMPLE**Use the Distributive Property**

- 1** **A.** Use the Distributive Property to write $4(5 + 8)$ as an equivalent expression. Then evaluate the expression.

$$\begin{aligned} 4(5 + 8) &= 4 \cdot 5 + 4 \cdot 8 \\ &= 20 + 32 && \text{Multiply.} \\ &= 52 && \text{Add.} \end{aligned}$$

Answer: 52

EXAMPLE**Use the Distributive Property**

- 1 B.** Use the Distributive Property to write $(6 + 9)2$ as an equivalent expression. Then evaluate the expression.

$$(6 + 9)2 = 6 \cdot 2 + 9 \cdot 2$$

$$= 12 + 18$$

$$= 30$$

Multiply.

Add.

Answer: 30

CHECK Your Progress

1 A. Use the Distributive Property to write $3(9 + 2)$ as an equivalent expression. Then evaluate the expression.

0% A. $3 \cdot 9 + 3 \cdot 2; 30$

0% **B.** $3 \cdot 9 + 3 \cdot 2; 33$

0% C. $(3 + 9)(3 + 2); 60$

0% D. $(3 + 9)(3 + 2); 72$



 **CHECK Your Progress**

1 B. Use the Distributive Property to write $(7 + 3)5$ as an equivalent expression. Then evaluate the expression.

0% **A.** $(7 + 5)(3 + 5); 96$

0% **B.** $(7 + 5)(3 + 5); 86$

0% **C.** $7 \cdot 5 + 3 \cdot 5; 50$

0% **D.** $7 \cdot 5 + 3 \cdot 5; 45$



**Real-World EXAMPLE**

2 RECREATION A canoe camping class costs \$80 per person, including the cost for canoe rental. The cost for food is an additional \$39 per person.

A. Write two equivalent expressions to find the total cost of one class for a family of four.

Method 1 Find the cost for 1 person, then multiply by 4.

$$4(\$80 + \$39)$$

4 times the cost for 1 person



Real-World EXAMPLE

- 2 Method 2** Find the cost of 4 classes and food for 4.
Then add.

$$4(\$80) + 4(\$39)$$

cost of four classes +
cost of food for 4

**Real-World EXAMPLE**

2 B. Evaluate either expression to find the total cost.

$$\begin{aligned}4(\$80 + \$39) &= 4(\$80) + 4(\$39) && \text{Distributive Property} \\ &= \$320 + \$156 && \text{Multiply.} \\ &= \$476 && \text{Add.}\end{aligned}$$

Answer: The total cost is \$476. You can check your results by evaluating $4(\$119)$.

 **CHECK** Your Progress

- 2 MOVIES** The cost of a movie ticket is \$7 and the cost of a box of popcorn is \$2.
(A) Write two equivalent expressions to find the total cost for a family of five to go to the movies if each member of the family gets a box of popcorn.

0% **A.** $5(\$7) + 5(\$2)$; $5(\$7 + \$2)$

0% **B.** $5(\$7) + 5(\$2)$; $5(\$7 \bullet \$2)$

0% **C.** $\$7 + 5(\$2)$; $\$7 + \10

0% **D.** $\$7 + 5(\$2)$; $5(\$7 + \$2)$

 **CHECK** Your Progress

2 MOVIES The cost of a movie ticket is \$7 and the cost of a box of popcorn is \$2.
(B) Find the total cost.

0% A. \$17

0% B. \$40

0% **C.** \$45

0% D. \$70



EXAMPLE Simplify Algebraic Expressions

- 3** A. Use the Distributive Property to write $2(x + 4)$ as an equivalent algebraic expression.

$$\begin{aligned} 2(x + 4) &= 2x + 2 \cdot 4 \\ &= 2x + 8 \end{aligned} \quad \text{Simplify.}$$

Answer: $2x + 8$

EXAMPLE Simplify Algebraic Expressions

- 3** B. Use the Distributive Property to write $(y + 3)6$ as an equivalent algebraic expression.

$$\begin{aligned}(y + 3)6 &= y \cdot 6 + 3 \cdot 6 \\ &= 6y + 18 \quad \text{Simplify.}\end{aligned}$$

Answer: $6y + 18$

 **CHECK Your Progress**

3 A. Use the Distributive Property to write $4(m + 7)$ as an equivalent algebraic expression.

0% A. $m + 28$

0% B. $4m + 11$

0% C. $(4m)(28)$

0% **D.** $4m + 28$



 **CHECK Your Progress**

3 B. Use the Distributive Property to write $(p + 3)5$ as an equivalent algebraic expression.

0% A. $5p + 8$

0% **B.** $5p + 15$

0% C. $p + 15$

0% D. $(5p)(15)$



EXAMPLE**Simplify Expressions with Subtraction**

- 4** A. Use the Distributive Property to write $4(x - 2)$ as an equivalent algebraic expression.

$$4(x - 2) = 4[x + (-2)] \quad \text{Rewrite } x - 2 \text{ as } x + (-2).$$

$$= 4x + 4(-2) \quad \text{Distributive Property}$$

$$= 4x + (-8) \quad \text{Simplify.}$$

$$= 4x - 8 \quad \text{Definition of subtraction}$$

Answer: $4x - 8$

EXAMPLE Simplify Expressions with Subtraction

- 4 B.** Use the Distributive Property to write $-2(n - 3)$ as an equivalent algebraic expression.

$$\begin{aligned} -2(n - 3) &= -2[n + (-3)] && \text{Rewrite } n - 3 \text{ as } n + (-3). \\ &= -2n + (-2)(-3) && \text{Distributive Property} \\ &= -2n + 6 && \text{Simplify.} \end{aligned}$$

Answer: $-2n + 6$

 CHECK Your Progress

4 A. Use the Distributive Property to write $2(a - 9)$ as an equivalent algebraic expression.

0% A. $2a + 18$

0% B. $2a - 18$

0% C. $-36a$

0% D. $2a - 7$



 **CHECK Your Progress**

4 B. Use the Distributive Property to write $-7(b - 3)$ as an equivalent algebraic expression.

0% A. $-7b - 10$

0% B. $-147b$

0% **C.** $-7b + 21$

0% D. $-7b - 21$



End of the Lesson

Click the mouse button to return to the
Chapter Menu.



Chapter
RESOURCES



Lesson Menu

Five-Minute Check (over Lesson 3-1)

Main Idea and Vocabulary

Example 1: Identify Parts of Expressions

Example 2: Simplify Algebraic Expressions

Example 3: Real-World Example

Main Idea

- Use the Distributive Property to simplify algebraic expressions.

New Vocabulary

- term
- coefficient
- like terms
- constant
- simplest form
- simplifying an expression

EXAMPLE Identify Parts of Expressions

- 1 Identify the terms, like terms, coefficients, and constants in the expression $4x - x + 2y - 3$.

$$4x - x + 2y - 3 = 4x + (-x) + 2y + (-3) \quad \text{Definition of subtraction}$$

$$= 4x + (-1x) + 2y + (-3) \quad \text{Identity Property}$$

Answer: The terms are $4x$, $-x$, $2y$, and -3 . The like terms are $4x$ and $-x$. The coefficients are 4, -1 , and 2. The constant is -3 .

 **CHECK** Your Progress

- 1** Identify the terms, like terms, coefficients, and constants in the expression $5x + 3y - 2y + 6$.
- 0% **A.** terms: $5x, 3y, -2y$; like terms: $3y, -2y$;
coefficients: $5, 3, -2$; constant: 6
- 0% **B.** terms: $5x, 3y, -2y, 6$; like terms: none;
coefficients: $5, 3, -2$; constant: 6
- 0% **C.** terms: $5x, 3y, -2y, 6$; like terms: $3y, -2y$;
coefficients: $5, 3, -2$; constant: 6
- 0% **D.** terms: $5x, 3y, -2y$; like terms: $5x, 3y, -2y$;
coefficients: $5, 3, -2, 6$; constant: none



EXAMPLE Simplify Algebraic Expressions

2 A. Simplify $8n + 4 + 4n$.

$8n$ and $4n$ are like terms.

$$\begin{aligned} 8n + 4 + 4n &= 8n + 4n + 4 && \text{Commutative Property} \\ &= (8 + 4)n + 4 && \text{Distributive Property} \\ &= 12n + 4 && \text{Simplify.} \end{aligned}$$

Answer: $12n + 4$

EXAMPLE Simplify Algebraic Expressions**2** B. Simplify $6x + 4 - 5x - 7$.

$6x$ and $-5x$ are like terms. 4 and -7 are also like terms.

$$\begin{aligned}6x + 4 - 5x - 7 &= 6x + 4 + (-5x) + (-7) && \text{Definition of subtraction} \\ &= 6x + (-5x) + 4 + (-7) && \text{Commutative Property} \\ &= [6 + (-5)]x + 4 + (-7) && \text{Distributive Property} \\ &= x - 3 && \text{Simplify.}\end{aligned}$$

Answer: $x - 3$

EXAMPLE Simplify Algebraic Expressions**2** C. Simplify $-y + 2(x + 3y)$.

$$\begin{aligned} -y + 2(x + 3y) &= -y + 2x + 2(3y) && \text{Distributive Property} \\ &= -y + 2x + 6y && \text{Associative Property} \\ &= -1y + 6y + 2x && \text{Commutative} \\ & && \text{Property} \\ &= (-1 + 6)y + 2x && \text{Distributive Property} \\ &= 5y + 2x && \text{Simplify.} \end{aligned}$$

Answer: $5y + 2x$

 **CHECK** Your Progress

2 A. Simplify $5x + 3 + 7x$.

0% A. $15x$

0% **B.** $12x + 3$

0% C. $13x + 3$

0% D. $35x + 3$



 **CHECK** Your Progress

2 B. Simplify $3m + 9 - m - 6$.

0% **A.** $2m + 3$

0% **B.** $2m + 15$

0% **C.** $4m + 3$

0% **D.** $4m + 15$



 **CHECK** Your Progress

2 C. Simplify $7b + 3(c - 2b)$.

0% A. $b + c$

0% **B.** $b + 3c$

0% C. $5b + 3c$

0% D. $13b + 3c$



**Real-World EXAMPLE**

- 3 WORK** You and a friend worked in the school store last week. You worked 4 hours more than your friend. Write an expression in simplest form that represents the total number of hours you both worked.

Words number of hours your friend worked +
 number of hours you worked

Variables Let h = number of hours your friend worked.
 Let $h + 4$ = number of hours you worked.

Expression $h + h + 4$

**Real-World EXAMPLE**

3	$h + (h + 4) = (h + h) + 4$	Associative Property
	$= (1h + 1h) + 4$	Identity Property
	$= (1 + 1)h + 4$	Distributive Property
	$= 2h + 4$	Simplify.

Answer: The expression $2h + 4$ represents the total number of hours worked, where h is the number of hours your friend worked.

 **CHECK** Your Progress

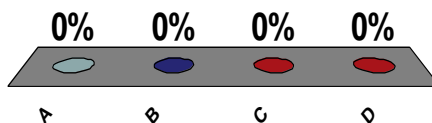
3 **LIBRARY BOOKS** You and a friend went to the library. Your friend borrowed three more books than you did. Write an expression in simplest form that represents the total number of books you both borrowed.

A. $4b$

B. $b + 3$

C. $2b + 3$

D. $2b + 3b$



End of the Lesson

Click the mouse button to return to the
Chapter Menu.



Chapter
RESOURCES



Lesson Menu

Five-Minute Check (over Lesson 3-2)

Main Ideas and Vocabulary

Key Concept: Subtraction Property of Equality

Example 1: Solve Equations by Subtracting

Key Concept: Addition Property of Equality

Example 2: Solve Equations by Adding

Example 3: Standardized Test Example: Solve Equations by Adding

Example 4: Real-World Example

Main Ideas

- Solve equations by using the Subtraction Property of Equality.
- Solve equations by using the Addition Property of Equality.

New Vocabulary

- inverse operation
- equivalent equations

KEY CONCEPT

Subtraction Property of Equality

Words If you subtract the same number from each side of an equation, the two sides remain equal.

Symbols For any numbers a , b , and c , if $a = b$, then $a - c = b - c$.

Examples

$$\begin{array}{l} 5 = 5 \\ 5 - 3 = 5 - 3 \\ 2 = 2 \end{array} \qquad \begin{array}{l} x + 2 = 3 \\ x + 2 - 2 = 3 - 2 \\ x = 1 \end{array}$$

EXAMPLE**Solve Equations by Subtracting**

- 1** Solve $x + 4 = -3$. Check your solution and graph it on a number line.

$$x + 4 = -3$$

Write the equation.

$$x + 4 - 4 = -3 - 4$$

Subtract 4 from each side.

$$x + 0 = -7$$

$$4 - 4 = 0, -3 - 4 = -7$$

$$x = -7$$

Identity Property; $x + 0 = x$

EXAMPLE**Solve Equations by Subtracting**

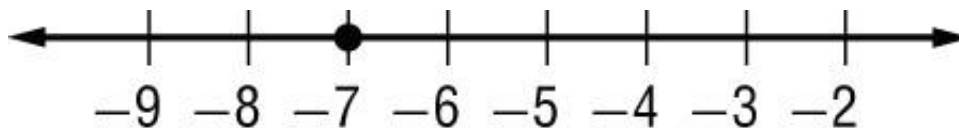
- 1** To check your solution, replace x with -7 in the original equation.

Check $x + 4 = -3$ Write the equation.

$-7 + 4 \stackrel{?}{=} -3$ Check to see whether this sentence is true.

$-3 = -3$ The sentence is true.

Answer: The solution is -7 . To graph, draw a dot at -7 on a number line.



 **CHECK** Your Progress

1 A. Solve $y + 7 = 3$. Check your solution.

0% A. 10

0% B. 4

0% **C.** -4

0% D. -10



KEY CONCEPT

Addition Property of Equality

Word If you add the same number to each side of an equation, the two sides remain equal.

Symbols For any numbers a , b , and c , if $a = b$, then $a + c = b + c$.

Examples

$6 = 6$	$x - 2 = 5$
$6 + 3 = 6 + 3$	$x - 2 + 2 = 5 + 2$
$9 = 9$	$x = 7$

EXAMPLE**Solve Equations by Adding**

2 Solve $y - 3 = -14$.

$$y - 3 = -14$$

Write the equation.

$$y + (-3) = -14$$

Rewrite $y - 3$ as $y + (-3)$.

$$y + (-3) + 3 = -14 + 3$$

Add 3 to each side.

$$y + 0 = -14 + 3$$

Additive Inverse Property;
 $(-3) + 3 = 0$

$$y = -11$$

Identity Property; $y + 0 = y$

Answer: The solution is -11 . Check your solution.

 **CHECK** Your Progress

2 Simplify $x - 2 = -9$.

0% A. 7

0% **B.** -7

0% C. -11

0% D. 11





Standardized Test EXAMPLE

Multiple-Choice Test Item

- 3** **ENTERTAINMENT** Movie A earned \$225 million at the box office. That is \$38 million less than Movie B earned. Which equation can be used to find the amount of money Movie B earned?

A. $B + 38 = 225$

B. $38 - B = 225$

C. $B = 225 - 38$

D. $B - 38 = 225$

Read the test item.

Translate the verbal sentence into an equation.

Solve the test item.



Standardized Test EXAMPLE

Multiple-Choice Test Item

3 Words Movie A earned \$38 million less than Movie B earned.

Variables Let B = amount Movie B earned.

Equation $225 = B - 38$

Answer: So the equation $225 = B - 38$ or $B - 38 = 225$ can be used to find the amount Movie B earned. This is choice D.

 **CHECK** Your Progress

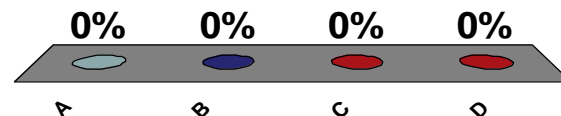
3 **CONSTRUCTION** Board A measures 22 feet. That is 9 feet more than the measure of board B. Which equation can be used to find the measure of board B?

A. $B + 9 = 22$

B. $B - 9 = 22$

C. $9 - B = 22$

D. $B = 22 + 9$



**Real-World EXAMPLE**

- 4 MOUNTAINS** Write and solve an equation to find the height of Guadalupe Peak, the highest point in Texas. Driskill Mountain, with a height of 535 feet, is the highest point in the neighboring state of Louisiana. It is 8214 feet lower than Guadalupe Peak.

Let h = the height of Guadalupe Peak.

$$535 = h - 8214$$

Write the equation.

$$535 + 8214 = h - 8214 + 8214$$

Add 8214 to each side.

$$8749 = h$$

Simplify.

Answer: Guadalupe Peak is 8749 feet high.

 **CHECK** Your Progress

- 4 BUILDINGS** Write and solve an equation to find the expected height of the Freedom Tower, which is being built at the World Trade Center site in New York City. The Sears Tower in Chicago, 1450 feet tall, is 326 feet lower than the expected height of the Freedom Tower.

0% **A.** $1450 = h + 326$; 1124 feet

0% **B.** $h = 1450 - 326$; 1124 feet

0% **C.** $1450 = h - 326$; 1776 feet

0% **D.** $1450 - h = 326$; 1776 feet



End of the Lesson

Click the mouse button to return to the
Chapter Menu.



Chapter
RESOURCES



Lesson Menu

Five-Minute Check (over Lesson 3-3)

Main Ideas

Key Concepts: Division Property of Equality

Example 1: Solve Equations by Dividing

Example 2: Real-World Example

Key Concepts: Multiplication Property of Equality

Example 3: Solve Equations by Multiplying

Main Ideas

- Solve equations by using the Division Property of Equality.
- Solve equations by using the Multiplication Property of Equality.

KEY CONCEPT

Division Property of Equality

Words When you divide each side of an equation by the same nonzero number, the two sides remain equal.

Symbols For any numbers a , b , and c , where $c \neq 0$, then $\frac{a}{c} = \frac{b}{c}$.

Examples $14 = 14$

$$\frac{14}{7} = \frac{14}{7}$$

$$2 = 2$$

$$3x = -12$$

$$\frac{3x}{3} = \frac{-12}{3}$$

$$x = -4$$

EXAMPLE**Solve Equations by Dividing**

- 1** Solve $7x = -56$. Check your solution and graph it on a number line.

$$7x = -56$$

Write the equation.

$$\frac{7(x)}{7} = \frac{-56}{7}$$

Divide each side by 7 to undo the multiplication in $7 \cdot x$.

$$1x = -8$$

$$\frac{7}{7} = 1, \quad \frac{-56}{7} = -8$$

$$x = -8$$

Identity Property; $1x = x$

EXAMPLE**Solve Equations by Dividing**

- 1** To check your solution, replace x with -8 in the original equation.

Check $7x = -56$

Write the equation.

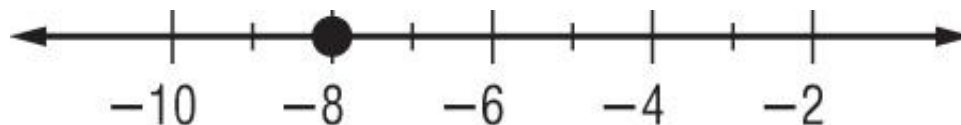
$$7(-8) \stackrel{?}{=} -56$$

Check to see whether this statement is true.

$$-56 = -56$$

The statement is true.

Answer: The solution is -8 .



 **CHECK** Your Progress

1 A. Solve $4x = -12$. Check your solution.

0% A. -48

0% **B.** -3

0% C. 3

0% D. 48



**Real-World EXAMPLE**

- 2 HOBBIES** Esteban spent \$112 on boxes of baseball cards. If he paid \$14 per box, how many boxes of cards did Esteban buy?

Words \$14 times the total number of boxes equals the total.

Variables Let x represent the number of boxes.

Equation $\$14 \cdot x = \112

**Real-World EXAMPLE**

2 Solve the equation.

$$14x = 112$$

$$\frac{14x}{14} = \frac{112}{14}$$

$$x = 8$$

Write the equation.

Divide each side by 14.

Simplify.

**Real-World EXAMPLE**

- 2** To check your solution, replace x with 8 in the original equation.

Check

$$14x = 112$$

Write the equation.

$$14(8) \stackrel{?}{=} 112$$

Check to see whether this statement is true.

$$112 = 112$$

The statement is true.

Answer: Therefore, Esteban bought 8 boxes of cards.

 **CHECK** Your Progress

2 TOY CARS Drew spent \$18 on toy cars. If the cars cost \$2 each, how many cars did Drew buy?

0% A. 8

0% **B.** 9

0% C. 16

0% D. 32



KEY CONCEPT

Multiplication Property of Equality

Words When you multiply each side of an equation by the same number, the two sides remain equal.

Symbols For any numbers a , b , and c , if $a = b$, then $ac = bc$.

Examples

$$8 = 8$$

$$8(-2) = 8(-2)$$

$$-16 = -16$$

$$\frac{x}{6} = 7$$

$$\left(\frac{x}{6}\right)6 = (7)6$$

$$x = 42$$

Concepts in Motion

[Interactive Lab: Solving Equations Using
Multiplication and Division](#)

[Click here to view!](#)



Chapter
RESOURCES



EXAMPLE

Solve Equations by Multiplying

- 3 Solve $\frac{y}{-5} = -12$. Check your solution and graph it on a number line.

$$\frac{y}{-5} = -12$$

Write the equation.

$$\frac{y}{-5}(-5) = -12(-5)$$

Multiply each side by -5 to undo the division in $\frac{y}{-5}$.

$$y = 60$$

Simplify.

EXAMPLE**Solve Equations by Multiplying**

3 **Check** $\frac{y}{-5} = -12$

Write the equation.

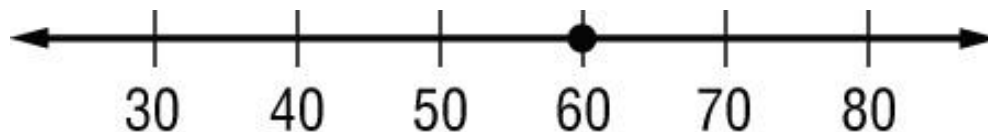
$$\frac{60}{-5} \stackrel{?}{=} -12$$

Check to see whether this statement is true.

$$-12 = -12$$

The statement is true.

Answer: The solution is 60. To graph it, draw a dot at 60 on a number line.



 **CHECK Your Progress**

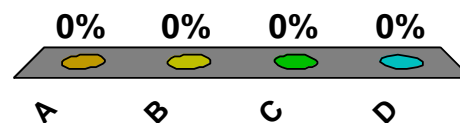
3 Solve $\frac{m}{4} = -9$. Check your solution.

A. -36

B. -5

C. $-\frac{9}{4}$

D. 36



End of the Lesson

Click the mouse button to return to the
Chapter Menu.



Chapter
RESOURCES



Lesson Menu

Five-Minute Check (over Lesson 3-4)

Main Idea and Vocabulary

Example 1: Solve Two-Step Equations

Example 2: Real-World Example

Example 3: Equations with Negative Coefficients

Example 4: Combine Like Terms Before Solving

Main Idea

- Solve two-step equations.

New Vocabulary

- two-step equation

EXAMPLE**Solve Two-Step Equations**

1 A. Solve $3x - 4 = 17$. Check your solution.

$$3x - 4 = 17$$

Write the equation.

$$3x - 4 + 4 = 17 + 4$$

Undo subtraction. Add 4 to each side.

$$3x = 21$$

Simplify.

$$\frac{3x}{3} = \frac{21x}{3}$$

Undo multiplication.
Divide each side by 3.

$$x = 7$$

Simplify.

EXAMPLE**Solve Two-Step Equations**

1 Check $3x - 4 = 17$ Write the equation.

$3(7) - 4 \stackrel{?}{=} 17$ Check to see whether this sentence is true.

$17 = 17$ The sentence is true.

Answer: The solution is 7.

EXAMPLE**Solve Two-Step Equations**

1 B. Solve $3 = \frac{n}{3} + 8$. Check your solution.

$$3 = \frac{n}{3} + 8$$

Write the equation.

$$3 - 8 = \frac{n}{3} + 8 - 8$$

Undo addition. Subtract 8 from each side.

$$-5 = \frac{n}{3}$$

Simplify.

EXAMPLE**Solve Two-Step Equations**

$$\textcircled{1} \quad 3(-5) = 3\left(\frac{n}{3}\right)$$

Undo division.
Multiply each side by 3.

$$-15 = n$$

Simplify.

Answer: The solution is -15 . Check your solution.

 **CHECK** Your Progress

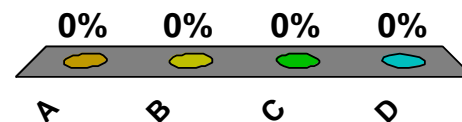
1 A. Solve $4x + 3 = 19$. Check your solution.

A. 4

B. 5

C. $5\frac{1}{2}$

D. 88



 **CHECK Your Progress**

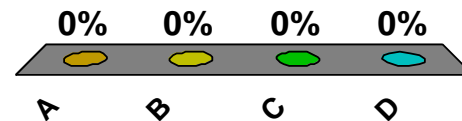
1 B. Solve $\frac{W}{6} - 6 = -4$. Check your solution.

A. -72

B. $\frac{2}{3}$

C. 12

D. 72



**Real-World EXAMPLE**

- 2 MEASUREMENT** The formula $F = 1.8C + 32$ can be used to convert Fahrenheit degrees to Celsius degrees. Solve the equation to find the equivalent Celsius temperature for 59°F .

$$59 = 1.8C + 32 \quad \text{Write the equation.}$$

$$59 - 32 = 1.8C + 32 - 32 \quad \text{Subtract 32 from each side.}$$

$$27 = 1.8C \quad \text{Simplify.}$$

$$\frac{27}{1.8} = \frac{1.8C}{1.8} \quad \text{Divide each side by 1.8.}$$

$$15 = C \quad \text{Simplify.}$$

Answer: The solution is 15. Therefore, 15° Celsius is equivalent to 59° Fahrenheit.

 **CHECK** Your Progress

2 **CELL PHONES** Sue signed up for a cell phone plan that charges \$19 per month plus \$0.10 per minute used. Her first bill was \$23.30. Solve $19 + 0.10x = 23.30$ to find how many minutes Sue used this month.

0% **A.** 0.43 minutes

0% **B.** 43 minutes

0% **C.** 53 minutes

0% **D.** 423 minutes

EXAMPLE Equations with Negative Coefficients**3** Solve $5 - x = 7$.

$$5 - x = 7$$

Write the equation.

$$5 - 1x = 7$$

Identity Property; $x = 1x$

$$5 + (-1x) = 7$$

Definition of subtraction

$$-5 + 5 + (-1x) = -5 + 7$$

Add -5 to each side.

$$-1x = 2$$

Simplify.

$$\frac{-1x}{-1} = \frac{2}{-1}$$

Divide each side by -1 .

$$x = -2$$

Check your solution.

Answer: The solution is -2 .

 **CHECK Your Progress**

3 Solve $9 = -4 - m$.

0% **A.** 13

0% **B.** 5

0% **C.** -5

0% **D.** -13



EXAMPLE Combine Like Terms Before Solving

4 Solve $b - 3b + 8 = 18$.

$$b - 3b + 8 = 18$$

Write the equation.

$$1b - 3b + 8 = 18$$

Identity Property; $b = 1b$

$$-2b + 8 = 18$$

Combine like terms, $1b$ and $-3b$.

$$-2b + 8 - 8 = 18 - 8$$

Subtract 8 from each side.

$$2b = 10$$

Simplify.

$$\frac{-2b}{-2} = \frac{10}{-2}$$

Divide each side by -2 .

$$b = -5$$

Simplify.

Answer: The solution is -5 .

 **CHECK** Your Progress

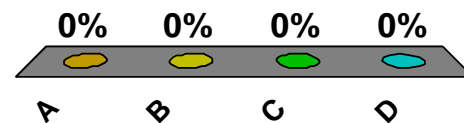
4 Solve $9 = 13 - x + 5x$.

A. 1

B. $\frac{2}{3}$

C. $-\frac{2}{3}$

D. -1



End of the Lesson

Click the mouse button to return to the
Chapter Menu.



Chapter
RESOURCES



Lesson Menu

Five-Minute Check (over Lesson 3-5)

Main Ideas

Example 1: Translate Sentences into Equations

Example 2: Translate and Solve an Equation

Example 3: Real-World Example

Example 4: Real-World Example

Main Ideas

- Write verbal sentences as two-step equations.
- Solve verbal problems by writing and solving two-step equations.

EXAMPLE**Translate Sentences into Equations**

- 1 A.** Translate this sentence into an equation.

Twice a number, increased by 5, equals -25 .

Answer: The equation is $2n + 5 = -25$.

EXAMPLE Translate Sentences into Equations

- 1 B.** Translate this sentence into an equation.

Four times a number, minus 8, equals 28.

Answer: The equation is $4n - 8 = 28$.

EXAMPLE**Translate Sentences into Equations**

- 1 C.** Translate this sentence into an equation.

When five is added to the product of a number and 8, the result is 12.

Answer: The equation is $5 + 8n = 12$.

 **CHECK** Your Progress

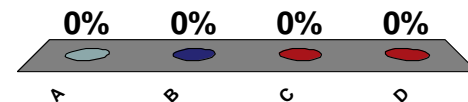
- 1** **A.** Translate the following sentence into an equation.
Five times a number decreased by 9 equals -6 .

A. $5(n - 9) = -6$

B. $5n - 9 = -6$

C. $5n + 9 = -6$

D. $n(5 - 9) = -6$



 **CHECK** Your Progress

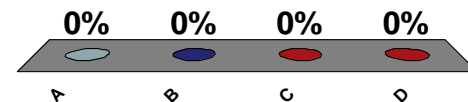
1 **B.** Translate the following sentence into an equation.
Three times a number increased by 7 equals 18.

A. $3n - 7 = 18$

B. $n(3 + 7) = 18$

C. $3n + 7 = 18$

D. $3(n + 7) = 18$



 **CHECK** Your Progress

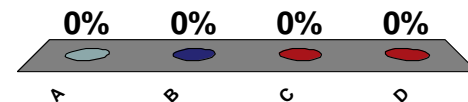
1 **C.** Translate the following sentence into an equation.
When seven is subtracted from the product of 2 and a number, the result is 10.

A. $2n - 7 = 10$

B. $7 - 2n = 10$

C. $2(n - 7) = 10$

D. $n(2 - 7) = 10$



EXAMPLE Translate and Solve an Equation

- 2** Nine more than four times a number is 41.
Find the number.

$$9 + 4n = 41$$

Write the equation.

$$9 - 9 + 4n = 41 - 9$$

Subtract 9 from each side.

$$4n = 32$$

Simplify.

$$n = 8$$

Mentally divide each side by 4.

Answer: Therefore, the number is 8.

 **CHECK** Your Progress

2 Six less than three times a number is 15.
Find the number.

0% **A.** -3

0% **B.** 3

0% **C.** 7

0% **D.** 27



**Real-World EXAMPLE**

- 3 EARNINGS** Ms. Parsons earns \$48,400 per year. This is \$4150 more than three times as much as her daughter earns. How much does her daughter earn?

Explore Ms. Parsons earns \$4150 more than three times as much as her daughter.

Plan Write an equation to represent the situation.

Let d = her daughter's earnings.

$$48,400 = 4150 + 3d$$

**Real-World EXAMPLE**

3 Solve $48,400 = 4150 + 3d$ Write the equation.

$48,400 - 4150 = 4150 - 4150 + 3d$ Subtract 4150 from each side.

$44,250 = 3d$ Simplify.

$$\frac{44,250}{3} = \frac{3d}{3}$$

Divide each side by 3.

$14,750 = d$ Simplify.

Check Multiply 3 times 14,750 and add 4150. The result is 48,400, which is Ms. Parson's salary. The answer is correct.

Answer: Ms. Parson's daughter earns \$14,750.

 **CHECK** Your Progress

3 SHOPPING Tami spent \$175 at the grocery store. That is \$25 less than four times as much as Ted spent. How much did Ted spend?

0% **A.** \$8.33

0% **B.** \$37.50

0% **C.** \$50

0% **D.** \$600



**Real-World EXAMPLE**

- 4** **COMMUNITY SERVICE** In a canned food drive, Sam collected 12 more cans than Louise. Together, they collected 128 cans. How many cans did Sam collect?

Let x = number of cans collected by Louise.

Then $x + 12$ = number of cans collected by Sam.

**Real-World EXAMPLE****4**

$$x + (x + 12) = 128$$

Write the equation.

$$(x + x) + 12 = 128$$

Associative Property

$$2x + 12 = 128$$

Combine like terms.

$$2x + 12 - 12 = 128 - 12$$

Subtract 12 from each side.

$$2x = 116$$

Simplify.

$$x = 58$$

Mentally divide each side by 2.

Answer: So, Louise collected 58 cans and Sam collected $58 + 12$ or 70 cans.

 **CHECK** Your Progress

4 **GARDENING** During the summer, Kyle picked eight more tomatoes from his garden than Matt picked from his garden. Together, they picked 32 tomatoes. How many tomatoes did Kyle pick?

0% **A.** 24 tomatoes

0% **B.** 21 tomatoes

0% **C.** 20 tomatoes

0% **D.** 12 tomatoes



End of the Lesson

Click the mouse button to return to the
Chapter Menu.



Chapter
RESOURCES



Lesson Menu

Five-Minute Check (over Lesson 3-6)

Main Ideas and Vocabulary

Example 1: Describe an Arithmetic Sequence

Example 2: Find a Term in an Arithmetic Sequence

Example 3: Real-World Example

Main Ideas

- Describe sequences using words and symbols.
- Find terms of arithmetic sequences.

New Vocabulary

- sequence
- arithmetic sequence
- term
- common difference

EXAMPLE Describe an Arithmetic Sequence

- 1 Describe the sequence 3, 6, 9, 12, ... using words and symbols.

		+1	+1	+1	
		↪	↪	↪	
Term Number (n)	1	2	3	4	
Term (t)	3	6	9	12	
		+3	+3	+3	
		↪	↪	↪	

Answer: The difference of the term numbers is 1.
The terms have a common difference of 3.
Also, a term is 3 times the term number.
The equation $t = 3n$ describes the sequence.

 **CHECK Your Progress**

- 1** Describe the sequence 7, 14, 21, 28, ... using words and symbols.
- 0% **A.** difference of term numbers: 7; common difference: 1; equation: $t = n + 3$
- 0% **B.** difference of term numbers: 7; common difference: 1; equation: $t = 7n$
- 0% **C.** difference of term numbers: 1; common difference: 7; equation: $t = n + 3$
- 0% **D.** difference of term numbers: 1; common difference: 7; equation: $t = 7n$



EXAMPLE Find a Term in an Arithmetic Sequence

2 Find the 11th term of 6, 9, 12, 15,

		+1	+1	+1
	↘	↘	↘	
Term Number (n)	1	2	3	4
Term (t)	6	9	12	15
	↖	↖	↖	
	+3	+3	+3	

The difference of the term numbers is 1.

The terms have a common difference of 3.

The common difference is 3 times the difference of the term numbers.

This suggests that $t = 3n$. However, you need to add 3 to get the exact value of t . Thus, $t = 3n + 3$.

EXAMPLE Find a Term in an Arithmetic Sequence

2 Check If $n = 2$, then $t = 3(2) + 3$ or 9.

If $n = 4$, then $t = 3(4) + 3$ or 15.

To find the 11th term in the sequence, let $n = 11$ and solve for t .

$t = 3n + 3$ Write the equation.

$= 3(11) + 3$ or 36

Answer: The 11th term is 36.

 **CHECK** Your Progress

2 Find the 14th term of 4, 9, 14, 19,

0% **A.** 19

0% **B.** 50

0% **C.** 20

0% **D.** 69



**Real-World EXAMPLE**

- 3 TELEPHONE CHARGES** For a telephone call to India, a telephone company charges \$8 for the first minute and \$4 for each additional minute. How much does it cost for a 10-minute call?

**Real-World EXAMPLE**

- 3 Make a table to organize the sequence and find a rule.

Number of Minutes (m)	1	2	3
Cost (c)	8	12	16

The difference of the term numbers is 1.

The terms have a common difference of 4.

The pattern in the table shows the equation $c = 4m + 4$.

If $c = 4m + 4$ or $c = 4(10) + 4$, then $c = 44$.

Answer: A 10-minute call would cost \$44.

 **CHECK** Your Progress

3 **READING** During one month Mitch read 3 books. Each month after, he read only 2 books. After 12 months, how many books did Mitch read?

0% **A.** 22 books

0% **B.** 24 books

0% **C.** 25 books

0% **D.** 27 books



End of the Lesson

Click the mouse button to return to the
Chapter Menu.



Chapter
RESOURCES



Lesson Menu

Five-Minute Check (over Lesson 3-7)

Main Ideas and Vocabulary

Example 1: Real-World Example

Key Concept: Perimeter of a Rectangle

Example 2: Find Perimeters and Lengths of Rectangles

Key Concept: Area of a Rectangle

Example 3: Find Areas and Lengths of Rectangles

Main Ideas

- Solve problems by using formulas.
- Solve problems involving the perimeters and areas of rectangles.

New Vocabulary

- formula
- perimeter
- area

**Real-World EXAMPLE**

- 1 TRAVEL** If you travel 135 miles in 3 hours, what is your average speed in miles per hour?

Method 1 Substitute first.

$$d = rt$$

Write the formula.

$$135 = r \cdot 3$$

Replace d with 135 and t with 3.

$$\frac{135}{3} = \frac{r \cdot 3}{3}$$

Divide each side by 3.

$$45 = r$$

Simplify.

**Real-World EXAMPLE**

1 Method 2 Solve for r first.

$$d = rt$$

Write the formula.

$$\frac{d}{t} = \frac{rt}{t}$$

Divide each side by t .

$$\frac{d}{t} = r$$

Simplify.

$$\frac{135}{3} = r$$

Replace d with 135 and t with 3.

$$45 = r$$

Simplify.

Answer: The average speed is 45 miles per hour.

 **CHECK** Your Progress

1 **VACATION** If you drive 520 miles in 8 hours, what is your average speed in miles per hour?

0% **A.** 55 mph

0% **B.** 60 mph

0% **C.** 65 mph

0% **D.** 70 mph



KEY CONCEPT

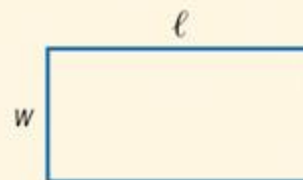
Perimeter of a Rectangle

Words The perimeter of a rectangle is twice the sum of the length and width.

Symbols $P = \ell + \ell + w + w$

$$P = 2\ell + 2w \quad \text{or} \quad P = 2(\ell + w)$$

Model



EXAMPLE**Find Perimeters and Lengths of Rectangles**

2 A. Find the perimeter of the rectangle.

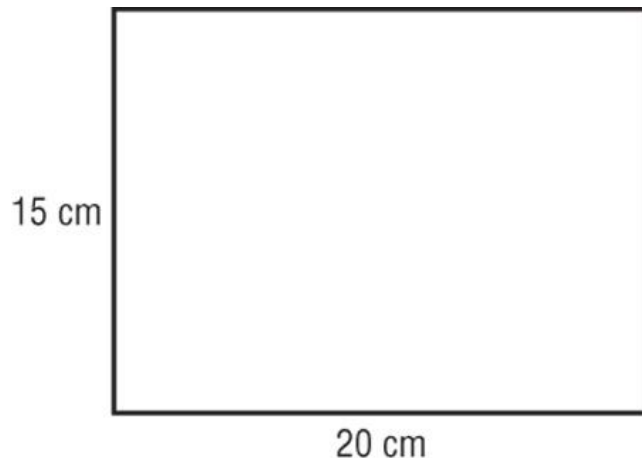
$$P = 2(\ell + w) \quad \text{Write the formula.}$$

$$P = 2(20 + 15) \quad \text{Replace } \ell \text{ with 20 and } w \text{ with 15.}$$

$$P = 2(35) \quad \text{Add 20 and 15.}$$

$$P = 70 \quad \text{Simplify.}$$

Answer: The perimeter is 70 centimeters.



EXAMPLE**Find Perimeters and Lengths of Rectangles**

- 2 B.** The perimeter of a rectangle is 60 feet. Its width is 9 feet. Find its length.

$$P = 2\ell + 2w$$

Write the formula.

$$60 = 2\ell + 2(9)$$

Replace P with 60 and w with 9.

$$60 = 2\ell + 18$$

Simplify.

$$60 - 18 = 2\ell + 18 - 18$$

Subtract 18 from each side.

$$42 = 2\ell$$

Simplify.

$$21 = \ell$$

Mentally divide each side by 2.

Answer: The length is 21 feet.

 **CHECK** Your Progress

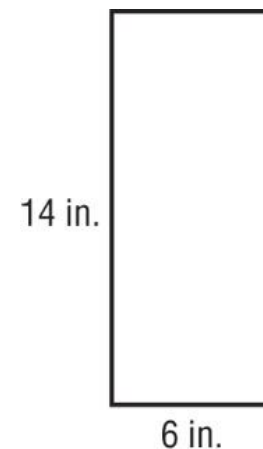
2 A. Find the perimeter of the rectangle.

0% A. 84 inches

0% **B.** 40 inches

0% C. 30 inches

0% D. 20 inches



 **CHECK** Your Progress

2 B. The perimeter of a rectangle is 36 meters. Its width is 6 meters. Find its length.

0% A. 216 meters

0% B. 24 meters

0% **C.** 12 meters

0% D. 6 meters



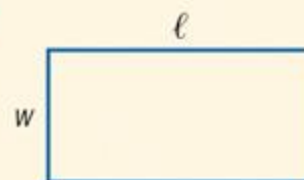
KEY CONCEPT

Area of a Rectangle

Words The area of a rectangle is the product of the length and width.

Symbols $A = \ell w$

Model



EXAMPLE**Find Areas and Lengths of Rectangles**

- 3** **A.** Find the area of a rectangle with length 14 feet and width 6 feet.

$$A = \ell w$$

Write the formula.

$$A = 14 \cdot 6$$

Replace ℓ with 14 and w with 6.

$$A = 84$$

Simplify.

Answer: The area is 84 square feet.

EXAMPLE Find Areas and Lengths of Rectangles

- 3** B. The area of a rectangle is 40 square meters. Its length is 8 meters. Find its width.

Method 1 Substitute, then solve for the variables.

$$A = \ell w$$

Write the formula.

$$40 = 8w$$

Replace A with 40 and ℓ with 8.

$$5 = w$$

Mentally divide each side by 8.

EXAMPLE**Find Areas and Lengths of Rectangles**

3 **Method 2** Solve, then substitute.

$$A = \ell w$$

Write the formula.

$$\frac{A}{\ell} = \frac{\ell w}{\ell}$$

Divide each side by ℓ .

$$\frac{A}{\ell} = w$$

Simplify.

$$\frac{40}{8} = w$$

Replace A with 40 and ℓ with 8.

$$5 = w$$

Simplify.

Answer: The width is 5 meters.

 **CHECK** Your Progress

3 A. Find the area of a rectangle with length 11 yards and width 6 yards.

0% **A.** 17 square yards

0% **B.** 33 square yards

0% **C.** 34 square yards

0% **D.** 66 square yards



 **CHECK** Your Progress

3 B. The area of a rectangle is 42 square inches. Its length is 14 inches. Find its width.

0% **A.** 3 inches

0% **B.** 7 inches

0% **C.** 14 inches

0% **D.** 588 inches



End of the Lesson

Click the mouse button to return to the
Chapter Menu.



Chapter
RESOURCES

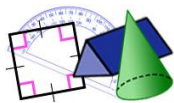


Chapter Resources Menu



CheckPoint

[Five-Minute Checks](#)



[Image Bank](#)



[Math Tools](#)

CONcepts in MOTion

Animation

[Solving Equations Using Algebra Tiles](#)

**Interactive
Lab**



[Solving Equations Using Multiplication and Division](#)

**Brain
POP**

[Distributive Property](#)



 **Five-Minute CHECK**

Lesson 3-1 (over Chapter 2)

Lesson 3-2 (over Lesson 3-1)

Lesson 3-3 (over Lesson 3-2)

Lesson 3-4 (over Lesson 3-3)

Lesson 3-5 (over Lesson 3-4)

Lesson 3-6 (over Lesson 3-5)

Lesson 3-7 (over Lesson 3-6)

Lesson 3-8 (over Lesson 3-7)



Image Bank

To use the images that are on the following three slides in your own presentation:

1. Exit this presentation.
2. Open a chapter presentation using a full installation of Microsoft® PowerPoint® in editing mode and scroll to the Image Bank slides.
3. Select an image, copy it, and paste it into your presentation.



Image Bank

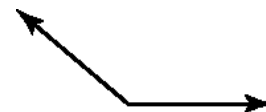
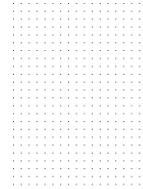
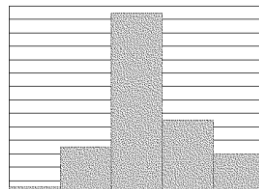
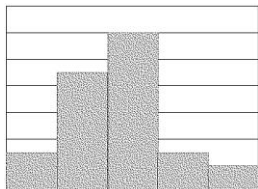
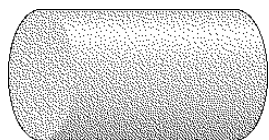
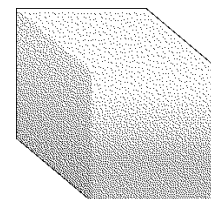
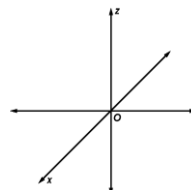
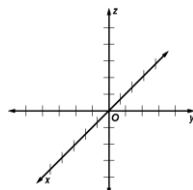
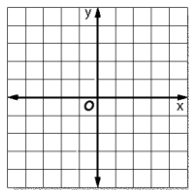
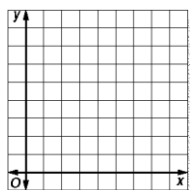
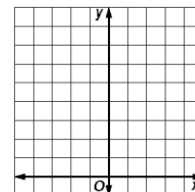
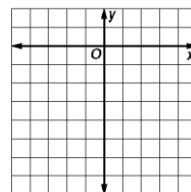
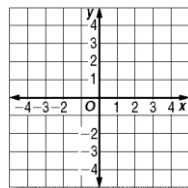
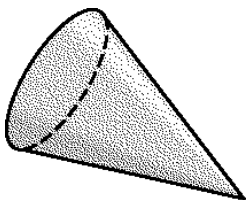
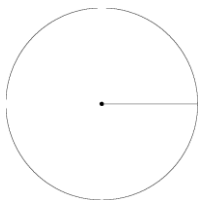
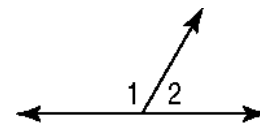
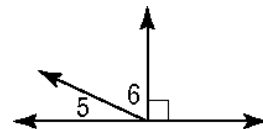
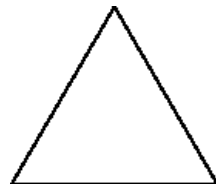
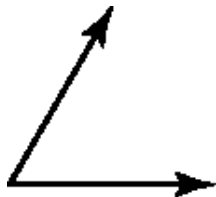
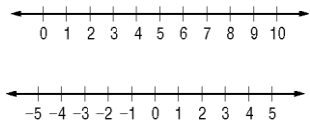
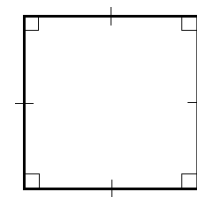
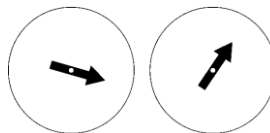
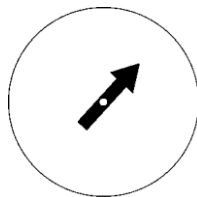
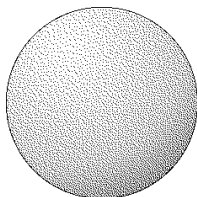
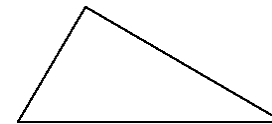
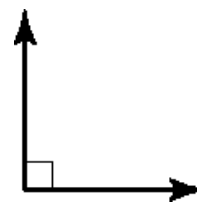
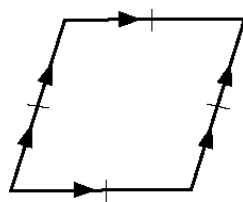
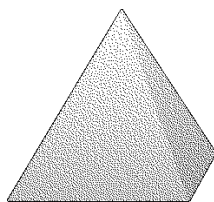
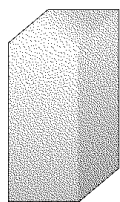
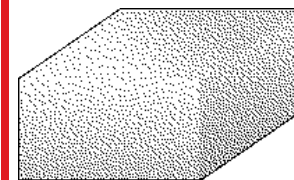
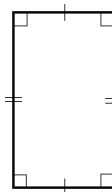
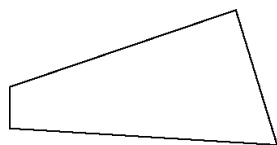
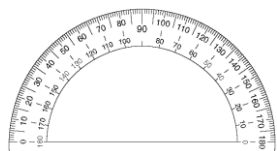
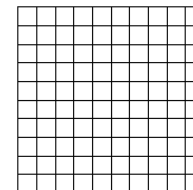
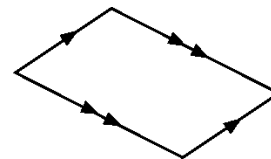
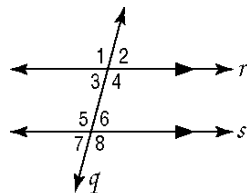
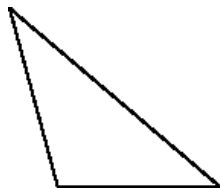
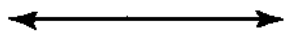
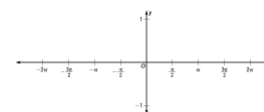
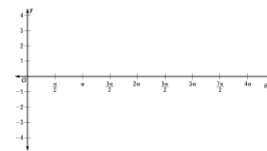
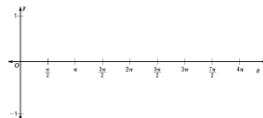
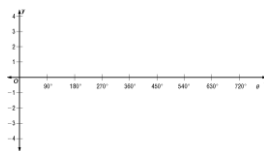
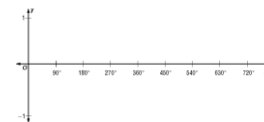
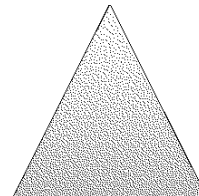
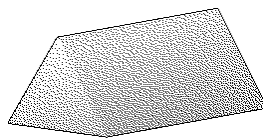
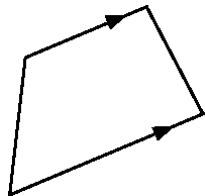
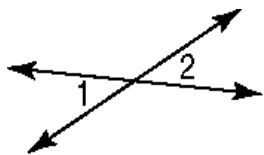


Image Bank



Stem	Leaf

Image Bank



CONcepts in MOTion *Animation*



**Five-Minute CHECK**

(over Chapter 2)

1 Evaluate $|a|$ for $a = -8$.

0% **A.** 8

0% **B.** 1

0% **C.** 0

0% **D.** -8

**Five-Minute CHECK** (over Chapter 2)

2 Evaluate $b + c$ if $b = 2$ and $c = -5$.

0% **A.** 7

0% **B.** 3

0% **C.** -3

0% **D.** -7



Five-Minute CHECK

(over Chapter 2)

3 Evaluate $-3a$ for $a = -8$.

0% A. -11

0% B. -5

0% C. 11

0% **D.** 24

**Five-Minute CHECK** (over Chapter 2)

4 Evaluate $c - a$ for $a = -8$ and $c = -5$.

0% **A.** -13

0% **B.** -3

0% **C.** 3

0% **D.** 13



Five-Minute CHECK

(over Chapter 2)

5 Evaluate $\frac{a}{b}$ for $a = -8$ and $b = 2$.

0% A. -16

0% **B.** -4

0% C. 3

0% D. 6



Five-Minute CHECK

(over Chapter 2)

Standardized Test Practice

6 The daily low temperatures over the past 5 days were 0°F , -5°F , -7°F , -1°F , and 3°F . What was the average low temperature over the 5-day period?

0% A. 0°F

0% B. -1°F

0% C. -2°F

0% D. -5°F



**Five-Minute CHECK**

(over Lesson 3-1)

1 Use the Distributive Property to write $(4 + 5)3$ as an equivalent expression. Then evaluate it.

0% **A.** $9 \cdot 3; 27$

0% **B.** $4 + 5 \cdot 3; 19$

0% **C.** $5 + 4 \cdot 3; 17$

0% **D.** $4 \cdot 3 + 5 \cdot 3; 27$



Five-Minute CHECK

(over Lesson 3-1)

2 Use the Distributive Property to write $6(7 - 1)$ as an equivalent expression. Then evaluate it.

0% **A.** $6 \cdot 7 + 6 \cdot (-1); 36$

0% **B.** $6 \cdot 7 - 6 \cdot (-1); -48$

0% **C.** $6 \cdot 7 \cdot (-1); -42$

0% **D.** $6 \cdot 6; 36$



Five-Minute CHECK

(over Lesson 3-1)

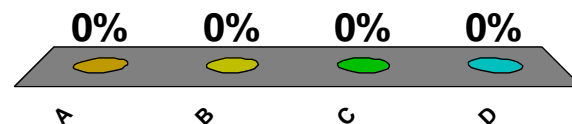
3 Use the Distributive Property to write $3(x + 8)$ as an equivalent algebraic expression.

A. $x + 11$

B. $x + 24$

C. $3x + 8$

D. $3x + 24$



**Five-Minute CHECK**

(over Lesson 3-1)

4 Use the Distributive Property to write $(n - 2)9$ as an equivalent algebraic expression.

0% **A.** $9n - 2$

0% **B.** $9n - 18$

0% **C.** $9 - 2n$

0% **D.** $n - 18$



**Five-Minute CHECK**

(over Lesson 3-1)

5 Use the Distributive Property to write $-2(a + 5)$ as an equivalent algebraic expression.

0% **A.** $-a - 5$

0% **B.** $-a - 10$

0% **C.** $-2a - 10$

0% **D.** $-2a - 5$



Five-Minute CHECK

(over Lesson 3-1)

Standardized Test Practice

6 Which equation is always true?

0% A. $-4y - 12 = -4(y - 3)$

0% **B.** $-4y - 12 = -4(y + 3)$

0% C. $-4(y - 12) = -4y - 12$

0% D. $(y - 3)4 = -4y - 12$



Five-Minute CHECK

(over Lesson 3-2)

- 1** Identify the terms, like terms, coefficients, and constants in the expression
 $4q + 5p - 9 - p + 8q$.

- 0% **A.** terms: $4q, 5p, -9, -p, 8q$; like terms: $4q, 8q, 5p, -p$;
coefficients: 4, 5, -1, 8, -9; constants: 4, 5, -9, -1, 8
- 0% **B.** terms: $4q, 5p, -p, 8q$; like terms: $4q, 8q$;
coefficients: 4, 5, -1, 8; constants: 4, 5, -9, -1, 8
- 0% **C.** terms: $4q, 5p, -9, -p, 8q$; like terms: $4q, 8q; 5p, -p$;
coefficients: 4, 5, -1, 8; constants: -9
- 0% **D.** terms: $4q, 5p, -9, -p, 8q$; like terms: $4q, 8q; 5p, -p$;
coefficients: 4, 5, -1, 8, -9; constants: -9



Five-Minute CHECK

(over Lesson 3-2)

2 Simplify $4m + 6m + 3$.

0% **A.** $10m + 3$

0% **B.** $13 + m$

0% **C.** $12m + 3$

0% **D.** $13m$



Five-Minute CHECK

(over Lesson 3-2)

3 Simplify $24a - a + 16$.

0% A. $25a + 16$

0% B. $23a + 16$

0% C. $40 - a$

0% D. $a + 40$





Five-Minute CHECK

(over Lesson 3-2)

4 Simplify $9(r + 7) - 12r$.

0% **A.** $-3r + 63$

0% **B.** $-99r + 63$

0% **C.** $-108(r + 7)$

0% **D.** $-3r + 7$



Five-Minute CHECK

(over Lesson 3-2)

5 Simplify $6(x - 2) + 8x$.

0% A. $9x - 12$

0% B. $14x - 2$

0% C. $54x - 12$

0% **D.** $14x - 12$



Five-Minute CHECK

(over Lesson 3-2)

Standardized Test Practice

6 Which expression is *not* equivalent to $-2n - 8$?

0% A. $6 - 2(n + 7)$

0% B. $-2(n + 7) + 6$

0% C. $-6n - 8 + 8n$

0% D. $4n - 3 - 6n - 5$



Five-Minute CHECK

(over Lesson 3-3)

1 Solve the equation $x - 3 = -6$. Check your solution.

0% A. -9

0% **B.** -3

0% C. 2

0% D. 18



**Five-Minute CHECK**

(over Lesson 3-3)

2 Solve the equation $y + 9 = 7$. Check your solution.

0% A. 16

0% B. 2

0% **C.** -2

0% D. -16



Five-Minute CHECK

(over Lesson 3-3)

3 Solve the equation $23 = m - 6$. Check your solution.

0% A. -29

0% B. -17

0% C. 17

0% **D.** 29





Five-Minute CHECK

(over Lesson 3-3)

4 Solve the equation $y - 7 = 17$. Check your solution.

0% A. -24

0% B. -10

0% C. 10

0% **D.** 24

**Five-Minute CHECK**

(over Lesson 3-3)

5 Solve the equation $-13 = x - 9$. Check your solution.

0% A. 4

0% **B.** -4

0% C. -20

0% D. -22



Five-Minute CHECK

(over Lesson 3-3)

Standardized Test Practice

- 6 Kendal scored 63 points during the basketball season. This is 11 less than the number of points that Santiago scored. Which equation can be used to find the number of points Santiago scored during the season?

0% A. $11 - x = 63$

0% B. $x - 11 = 63$

0% C. $x + 11 = 63$

0% D. $-63 = 11 + x$

**Five-Minute CHECK****(over Lesson 3-4)**

1 Solve the equation $\frac{x}{3} = -6$. Check your solution.

0% **A.** -2

0% **B.** -3

0% **C.** -9

0% **D.** -18

**Five-Minute CHECK**

(over Lesson 3-4)

2 Solve the equation $-3x = -21$. Check your solution.

0% **A.** 7

0% **B.** 18

0% **C.** 24

0% **D.** 63





Five-Minute CHECK

(over Lesson 3-4)

3 Solve the equation $\frac{x}{-2} = 16$. Check your solution.

0% A. -18

0% B. -8

0% C. 4

0% **D.** -32



Five-Minute CHECK

(over Lesson 3-4)

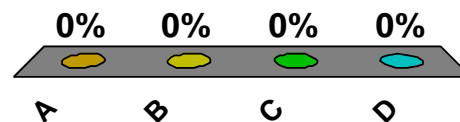
4 Solve the equation $-28 = 4x$. Check your solution.

A. $\frac{1}{7}$

B. $-\frac{1}{7}$

C. -7

D. 7





Five-Minute CHECK

(over Lesson 3-4)

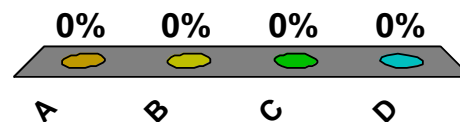
5 Solve the equation $-16 = \frac{x}{3}$. Check your solution.

A. $5\frac{1}{3}$

B. -6

C. -32

D. -48





Five-Minute CHECK

(over Lesson 3-4)

Standardized Test Practice

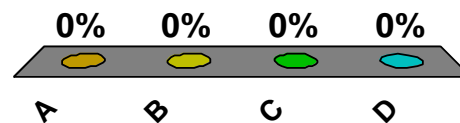
6 If a number divided by -7 equals -1 , what is the number?

A. 7

B. $\frac{1}{7}$

C. $-\frac{1}{7}$

D. -7





Five-Minute CHECK

(over Lesson 3-5)

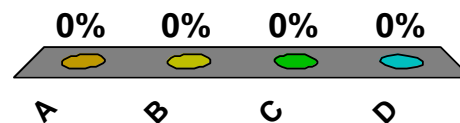
1 Solve the equation $3m + 5 = 17$. Check your solution.

A. 36

B. $\frac{22}{3}$

C. 4

D. $\frac{17}{8}$



**Five-Minute CHECK**

(over Lesson 3-5)

2 Solve the equation $-6 = 2a - 4$. Check your solution.

0% A. -5

0% **B.** -1

0% C. 5

0% D. 7



**Five-Minute CHECK**

(over Lesson 3-5)

3 Solve the equation $\frac{x}{2} + 5 = 13$. Check your solution.

0% A. 4

0% B. 8

0% **C.** 16

0% D. 21



Five-Minute CHECK

(over Lesson 3-5)

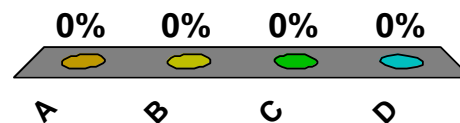
4 Solve the equation $-5x + 4 = 29$. Check your solution.

A. -5

B. $-\frac{9}{4}$

C. $\frac{29}{5}$

D. 5





Five-Minute CHECK

(over Lesson 3-5)

5 Solve the equation $\frac{r}{5} - 8 = 1$. Check your solution.

0% A. 3

0% B. 13

0% C. 35

0% **D.** 45



Five-Minute CHECK

(over Lesson 3-5)

Standardized Test Practice

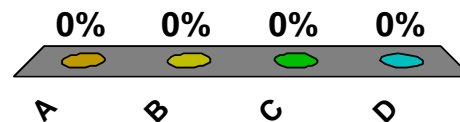
6 Which equation does *not* have a solution of -9 ?

A. $6x + 29 = -25$

B. $\frac{x}{3} + 12 = 9$

C. $-1 = 2x + 17$

D. $5 + \frac{x}{-3} = 2$





Five-Minute CHECK

(over Lesson 3-6)

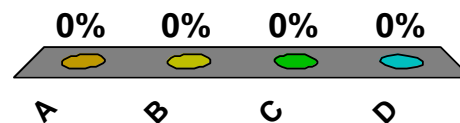
- 1 Seven more than three times a number is 34. Translate the sentence into an equation and then find the number.

A. $3n + 7 = 34$; 9

B. $7n - 3 = 34$; $\frac{37}{7}$

C. $7n + 3 = 34$; $\frac{31}{7}$

D. $3(n + 7) = 34$; 13



**Five-Minute CHECK**

(over Lesson 3-6)

2 Nine less than six times a number is 57. Translate the sentence into an equation and then find the number.

0% **A.** $(6 - 9)n = 57; -19$

0% **B.** $9 - 6n = 57; -8$

0% **C.** $9n - 6 = 57; 7$

0% **D.** $6n - 9 = 57; 11$





Five-Minute CHECK

(over Lesson 3-6)

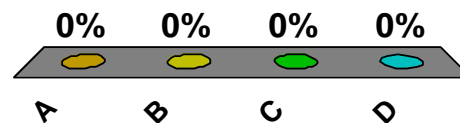
- 3 The quotient of a number and -3 , less 5, is -7 . Translate the sentence into an equation and then find the number.

A. $\frac{n}{-3} - 5 = -7; 6$

B. $\frac{n-5}{-3} = -7; 36$

C. $\frac{n}{-3} = -5 - 7; 6$

D. $\frac{n}{-3} = -5 - 7; 36$





Five-Minute CHECK

(over Lesson 3-6)

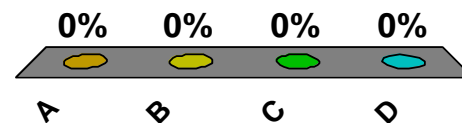
- 4 Sam sold a car for \$200 more than half the original price. If he sold the car for \$6540, what was the original price? Solve the problem by writing and solving an equation.

A. $6540 + 200 = \frac{n}{2}$; \$13,480

B. $6540 = 200 + \frac{n}{2}$; \$12,680

C. $\frac{1}{2}(n - 6540) = 200$; \$16,940

D. $n + \frac{200}{2} = 6540$; \$16,940



**Five-Minute CHECK**

(over Lesson 3-6)

- 5** Erik scored 12 points more than Juanita on a science test. Together they scored 170 points. What was Eric's score on the test? Solve the problem by writing and solving an equation.

0% **A.** $2n + 12 = 170$; 91

0% **B.** $12 + 2n = 170$; 79

0% **C.** $12n + 2 = 170$; 14

0% **D.** $12n + 2 = 170$; 15

**Five-Minute CHECK**

(over Lesson 3-6)

Standardized Test Practice

6 Jake's age is 5 years less than twice his brother's age. His brother is 10 years old. How old is Jake?

0% **A.** 5

0% **B.** 10

0% **C.** 15

0% **D.** 20





Five-Minute CHECK

(over Lesson 3-7)

1 Describe the sequence 2, 4, 6, 8, 10, ... using words and symbols.

0% **A.** The terms have a common difference of 2;
 $t = 2n.$

0% **B.** The terms have a common difference of 1;
 $t = n.$

0% **C.** The terms have a common difference of 2;
 $t = 2 + n.$

0% **D.** The terms have a common difference of 4;
 $t = 4n.$

**Five-Minute CHECK**

(over Lesson 3-7)

2 Describe the sequence 10, 20, 30, 40, ... using words and symbols.

0% **A.** The terms have a common difference of 10;
 $t = 10 + n.$

0% **B.** The terms have a common difference of 5;
 $t = 5n.$

0% **C.** The terms have a common difference of 10;
 $t = 10n.$

0% **D.** The terms have a common difference of 20;
 $t = 20 + n.$



Five-Minute CHECK

(over Lesson 3-7)

3 Describe the sequence 9, 10, 11, 12, ... using words and symbols.

0% **A.** The terms have a common difference of 8, and you have to add 1 to the term number to get the term; $t = 8n$.

0% **B.** The terms have a common difference of 1, and you have to add 8 to the term number to get the term; $t = n + 8$.

0% **C.** The terms have a common difference of 1, and you have to add 8 to the term number to get the term; $t = 8n$.

0% **D.** The terms have a common difference of 1; $t = n$.





Five-Minute CHECK

(over Lesson 3-7)

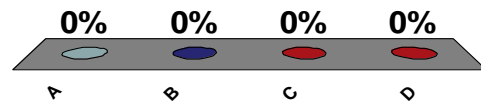
4 Write the equation that describes the sequence 7, 8, 9, 10, ... Then find the 14th term of the sequence.

A. $t = n + 7; 21$

B. $t = n + 6; 20$

C. $t = 6n; 84$

D. $t = 2n + 4; 48$

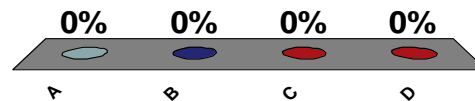




Five-Minute CHECK

(over Lesson 3-7)

- 5 Write the equation that describes the sequence 7, 10, 13, 16, ... Then find the 22nd term of the sequence.
- A. $t = 3n + 4; 70$
- B. $t = 4n + 3; 91$
- C. $t = 3n; 66$
- D. $t = 2n + 4; 48$





Five-Minute CHECK

(over Lesson 3-7)

Standardized Test Practice

- 6 Which figure in the pattern to the right will have 39 squares?



Figure 1

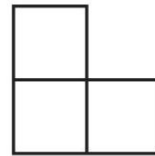


Figure 2

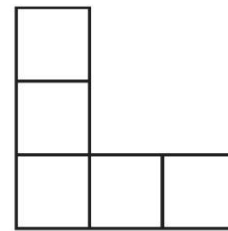


Figure 3

0% A. 15

0% B. 18

0% C. 19

0% **D. 20**

