Name_____ Date _____

3.1 Algebraic Expressions

For use with Activity 3.1

Essential Question How can you simplify an algebraic expression?

1 ACTIVITY: Simplifying Algebraic Expressions

Work with a partner.

a. Evaluate each algebraic expression when $x = 0$ and when $x = 1$. Use the results to match each expression in the left table with its equivalent expression in the right table.

	Expression	Value When $x = 0$	Value When $x = 1$
A.	$3x + 2 - x + 4$		
B.	$5(x - 3) + 2$		
C.	$x + 3 - (2x + 1)$		
D.	$-4x + 2 - x + 3x$		
E.	$-(1 - x) + 3$		
F.	$2x + x - 3x + 4$		
G.	$4 - 3 + 2(x - 1)$		
H.	$2(1 - x + 4)$		
I.	$5 - (4 - x + 2x)$		
J.	$5x - (2x + 4 - x)$		

	Expression	Value When $x = 0$	Value When $x = 1$
a.	4		
b.	$-x + 1$		
c.	$4x - 4$		
d.	$2x + 6$		
e.	$5x - 13$		
f.	$-2x + 10$		
g.	$x + 2$		
h.	$2x - 1$		
i.	$-2x + 2$		
j.	$-x + 2$		

b. Compare each expression in the left table with its equivalent expression in the right table. In general, how do you think you obtain the equivalent expression in the right table?

Name _____ Date _____

2 ACTIVITY: Writing a Math Lesson

Work with a partner. Use your results from Activity 1 to write a lesson on simplifying an algebraic expression.

Simplifying an Algebraic Expression

Key Idea Use the following steps to simplify an algebraic expression.

Describe steps you can use to simplify an expression.

1.

2.

3.

Examples ← Write 3 examples. Use expressions from Activity 1.

a.

b.

c.

Exercises ← Write 3 exercises. Use expressions different from the ones in Activity 1.

Simplify the expression.

1.

2.

3.

3.1 Algebraic Expressions (continued)

What Is Your Answer?

3. **IN YOUR OWN WORDS** How can you simplify an algebraic expression? Give an example that demonstrates your procedure.

4. **REASONING** Why would you want to simplify an algebraic expression? Discuss several reasons.

Name _____ Date _____

3.1 Practice

Identify the terms and like terms in the expression.

1. $-4y + 7 + 9y - 3$

2. $3n^2 - 1.4n + 5n^2 - 6.4$

3. $\frac{1}{2}b^3 - b^3 + 2b$

Simplify the expression.

4. $-15m + 9m$

5. $8k - 2(4 - 3k)$

6. $3.2 - 9x + 7.1 - 3x$

7. $25 - 6x - 12 - 2x$

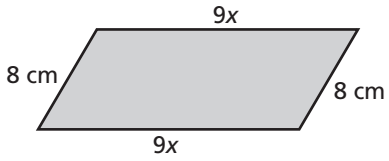
8. $19a - 7 - 3a + 12a$

9. $\frac{5}{2}(6x - 7) + \frac{4}{3}(2 + 9x)$

10. $\frac{1}{8}h + 7 - \frac{3}{4}h$

11. $\frac{2}{3}y + 5 - 3 - \frac{11}{12}y$

12. Write an expression in simplest form that represents the perimeter of the polygon.



13. Each runner is carrying an 8 ounce bottle of water, a 2.1 ounce energy bar, and a 3 ounce energy drink. Write an expression in simplest form that represents the weight carried by y runners. Interpret the expression.

14. John weighs 65 kilograms, Sam weighs $22x$ kilograms, and Mark weighs $13x$ kilograms. Write an expression in simplest form for their combined weight.

15. Are the expressions $8a^2 - 4b + 7a^2$ and $5(3a^2 - 2b) + 6b$ equivalent? Explain your reasoning.

Name_____ Date _____

3.2 Adding and Subtracting Linear Expressions

For use with Activity 3.2

Essential Question How can you use algebra tiles to add or subtract algebraic expressions?

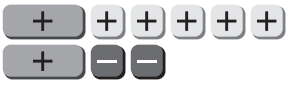
Key:  = variable	 = −variable	 = zero pair
= 1	= −1	= zero pair

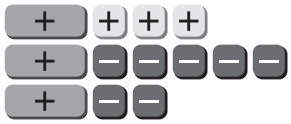
1 ACTIVITY: Writing Algebraic Expressions

Work with a partner. Write an algebraic expression shown by the algebra tiles.

a. 

b. 

c. 

d. 

2 ACTIVITY: Adding Algebraic Expressions

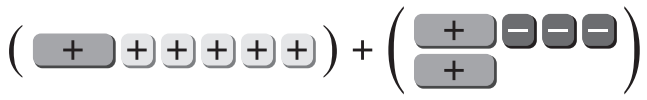
Work with a partner. Write the sum of two algebraic expressions modeled by the algebra tiles. Then use the algebra tiles to simplify the expression.

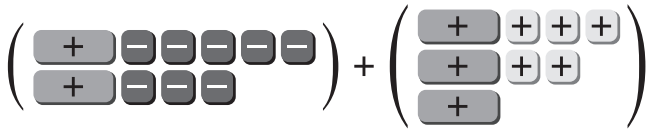
a. 

b. 

Name _____ Date _____

3.2 Adding and Subtracting Linear Expressions (continued)

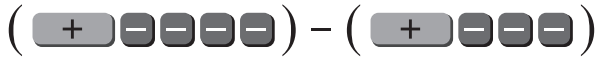
c. 

d. 

3 ACTIVITY: Subtracting Algebraic Expressions

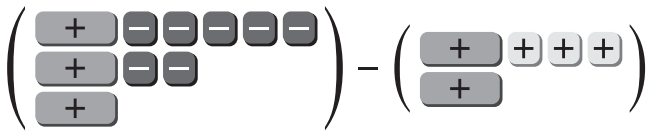
Work with a partner. Write the difference of two algebraic expressions modeled by the algebra tiles. Then use the algebra tiles to simplify the expression.

a. 

b. 

c. 

3.2 Adding and Subtracting Linear Expressions (continued)

d. 

4 ACTIVITY: Adding and Subtracting Algebraic Expressions

Work with a partner. Use algebra tiles to model the sum or difference. Then use the algebra tiles to simplify the expression.

a. $(2x + 1) + (x - 1)$

b. $(2x - 6) + (3x + 2)$

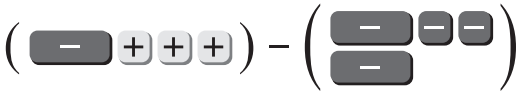
c. $(2x + 4) - (x + 2)$

d. $(4x + 3) - (2x - 1)$

What Is Your Answer?

5. IN YOUR OWN WORDS How can you use algebra tiles to add or subtract algebraic expressions?

6. Write the difference of two algebraic expressions modeled by the algebra tiles. Then use the algebra tiles to simplify the expression.



Name _____ Date _____

3.2 Practice

Find the sum.

1. $(p - 3) + (p - 7)$

2. $(3n - 1) + (4 - n)$

3. $(-3r + 8) + (5r - 1)$

4. $6(x - 3) + (2x - 9)$

5. $(3c + 2) + 4(1.3c - 5)$

6. $10(2.1q - 2) + (7.5q + 18)$

7. $(-6y - 2) + 5(3 + 2.5y)$

8. $\frac{1}{2}(6x - 10) + \frac{1}{3}(6 + 9x)$

9. After a week of rain, tadpoles appeared in your pond. After t minutes, you have $(7t + 5)$ tadpoles and your friend has $(8t - 3)$ tadpoles.

a. Write an expression that represents the number of tadpoles you and your friend caught together.

b. Who has more tadpoles after 9 minutes?

Find the difference.

10. $(k + 3) - (3k - 5)$

11. $(-6d + 2) - (7 + 2d)$

12. $(10j - 7) - (-9j + 2)$

13. $(3x + 8) - 6(2.5x - 3)$

14. $(7 - 3t) - 5(-1.6t + 5)$

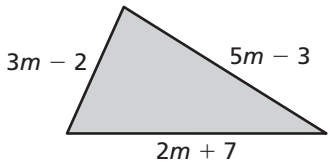
15. $\frac{1}{2}(12w + 8) - \frac{1}{5}(10w - 5)$

16. The admission to a local fair is \$10 for each adult and \$6 for each child. Each rides costs \$1.50 for an adult and \$1 for a child.

a. Write an expression that represents how much more an adult will spend at the fair.

b. An adult and a child each go on 7 rides. How much more did the adult spend?

17. Write an expression that represents the perimeter of the triangle.



Name_____ Date _____

3.3 Solving Equations Using Addition or Subtraction

For use with Activity 3.3

Essential Question How can you use algebra tiles to solve addition or subtraction equations?

1 ACTIVITY: Solving Equations

Work with a partner. Use algebra tiles to model and solve the equation.

a. $x - 3 = -4$

Model the equation $x - 3 = -4$. Draw a sketch of your tiles.

To get the variable tile by itself, remove the ____ tiles on the left side by adding _____ tiles to each side.

How many *zero pairs* can you remove from each side? Circle them.

The remaining tiles show the value of x.

$x =$ _____

b. $z - 6 = 2$

c. $p - 7 = -3$

d. $-15 = t - 5$

Name _____ Date _____

3.3 Solving Equations Using Addition or Subtraction (continued)

2 ACTIVITY: Solving Equations

Work with a partner. Use algebra tiles to model and solve the equation.

a. $-5 = n + 2$

b. $y + 10 = -5$

c. $7 + b = -1$

d. $8 = 12 + z$

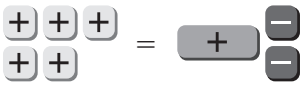
3 ACTIVITY: Writing and Solving Equations

Work with a partner. Write an equation shown by the algebra tiles. Then solve.

a. 

b. 

c. 

d. 

Name_____ Date _____

4 ACTIVITY: Using a Different Method to Find a Solution

Work with a partner. The *melting point* of a solid is the temperature at which the solid melts to become a liquid. The melting point of the element bromine is about 19°F. This is about 57°F more than the melting point of mercury.

a. Which of the following equations can you use to find the melting point of mercury? What is the melting point of mercury?

$x + 57 = 19$	$x - 57 = 19$	$x + 19 = 57$	$x + 19 = -57$

b. **CHOOSE TOOLS** How can you solve this problem without using an equation? Explain. How are these two methods related?

What Is Your Answer?

5. **IN YOUR OWN WORDS** How can you use algebra tiles to solve addition or subtraction equations? Give an example of each.

6. **STRUCTURE** Explain how you could use inverse operations to solve addition or subtraction equations without using algebra tiles.

7. What makes the cartoon funny?

"Dear Sir: Yesterday you said $x = 2$. Today you are saying $x = 3$. Please make up your mind."

8. The word *variable* comes from the word *vary*. For example, the temperature in Maine varies a lot from winter to summer. Write two other English sentences that use the word *vary*.

Name _____ Date _____

3.3 Practice

Solve the equation. Check your solution.

1. $x + 3 = 10$

2. $b - 6 = -14$

3. $5 = n + 9$

4. $y - 2.1 = 7.5$

5. $-6.4 = x + 4.3$

6. $k - \frac{1}{3} = \frac{5}{6}$

7. $10.5 + p = -8.32$

8. $3\frac{3}{4} = r + \frac{1}{8}$

9. $m + 1.06 = 5$

10. $-\frac{7}{12} = 1\frac{5}{6} + d$

11. $t - \frac{2}{7} = \frac{1}{2}$

12. $-10.2 + c = -8.14$

Write the word sentence as an equation. Then solve.

13. 5 more than a number y is -2.

14. The sum of 8 and a number h is 12.

15. -13 is 4 less than a number n.

In Exercises 16–20, write an equation. Then solve.

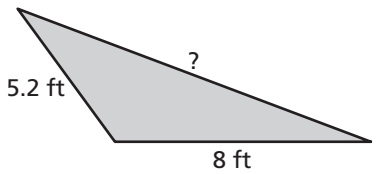
16. You earn \$9 per hour babysitting. This is \$2 more than what you earned per hour last year. What did you earn per hour last year?

17. Your mother asked you to turn the oven down to 325°F. This is 75°F less than it was. What was the original temperature?

18. The difference between the heights of your chair and your desk is $-10\frac{1}{4}$ inches. The height of your desk is $29\frac{3}{4}$ inches. What is the height of your chair?

19. Your Two-Day-Pass to a theme park is \$76.50. This is \$31.41 less than your uncle's Two-Day-Pass. What is the price of your uncle's pass?

20. The perimeter of a triangle is 25 feet. What is the length of the unknown side?



21. Find the value of $3x + 2$ when $7 + x = 5$.

Name_____ Date _____

3.4 Solving Equations Using Multiplication or Division

For use with Activity 3.4

Essential Question How can you use multiplication or division to solve equations?

1 ACTIVITY: Using Division to Solve Equations

Work with a partner. Use algebra tiles to model and solve the equation.

a. $3x = -12$

Model the equation $3x = -12$. Draw a sketch of your tiles.

Your goal is to get one variable tile by itself. Because there are _____ variable tiles, divide the _____ tiles into _____ equal groups. Circle the groups.

Keep one of the groups. This shows the value of x. Draw a sketch of the remaining tiles.

$x =$ _____.

b. $2k = -8$

Name _____ Date _____

3.4 Solving Equations Using Multiplication or Division (continued)

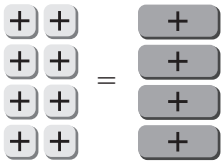
c. $-15 = 3t$

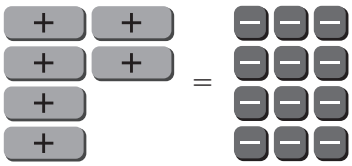
d. $-20 = 5m$

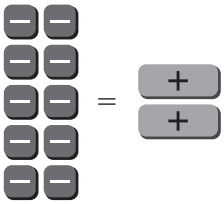
e. $4h = -16$

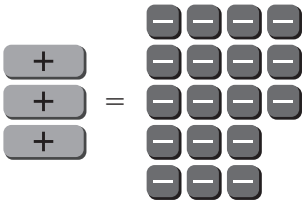
2 ACTIVITY: Writing and Solving Equations

Work with a partner. Write an equation shown by the algebra tiles. Then solve.

a. 

b. 

c. 

d. 

3.4 Solving Equations Using Multiplication or Division (continued)

3 ACTIVITY: Using a Different Method to Find a Solution

Work with a partner. Choose the equation you can use to solve each problem. Solve the equation. Then explain how to solve the problem without using an equation. How are the two methods related?

a. For the final part of a race, a handcyclist travels 32 feet each second across a distance of 400 feet. How many seconds does it take for the handcyclist to travel the last 400 feet of the race?

$32x = 400$	$400x = 32$	$\frac{x}{32} = 400$	$\frac{x}{400} = 32$

b. The melting point of the element radon is about $-96°\text{F}$. The melting point of nitrogen is about 3.6 times the melting point of radon. What is the melting point of nitrogen?

$3.6x = -96$	$x + 96 = 3.6$	$\frac{x}{3.6} = -96$	$-96x = 3.6$

c. This year, a hardware store has a profit of $-\$6.0$ million. This profit is $\frac{3}{4}$ of last year's profit. What is last year's profit?

$\frac{x}{-6} = \frac{3}{4}$	$-6x = \frac{3}{4}$	$\frac{3}{4} + x = -6$	$\frac{3}{4}x = -6$

What Is Your Answer?

4. IN YOUR OWN WORDS How can you use multiplication or division to solve equations? Give an example of each.

Name _____ Date _____

3.4 Practice

Solve the equation. Check your solution.

1. $4b = 24$

2. $-7n = 35$

3. $\frac{y}{-3} = 33$

4. $\frac{p}{5} = -32$

5. $-3t = -4.2$

6. $1.5q = -8.4$

7. $\frac{1}{5}d = -3$

8. $14 = 3y$

9. $\frac{g}{2.1} = -6.8$

10. $-\frac{3}{5}a = 2$

11. $\frac{k}{-9} = -\frac{1}{3}$

12. $\frac{5}{8}j = -10$

Write the word sentence as an equation. Then solve.

13. A number multiplied by $\frac{1}{2}$ is $-\frac{5}{12}$.

14. The quotient of a number and 0.2 is -2.6.

In Exercises 15–19, write an equation. Then solve.

15. You earn \$7.50 per hour at a fast food restaurant. You earned \$123.75 last week. How many hours did you work last week?

16. Your family took a road trip on Saturday. You were in the car for 4.5 hours and averaged 70 miles per hour. How many miles did you travel?

17. The area of a rectangle is $\frac{1}{2}$ square inch. The length of the rectangle is $\frac{3}{8}$ inch. What is the width of the rectangle?

18. You are in a room with other students and are asked to get in groups of 3. When finished, there are 21 groups of 3. How many students are in the room?

19. The perimeter of a square is 26.46 inches. What is the side length of the square?

20. Write a multiplication equation that has a solution of $\frac{2}{7}$.

21. Write a division equation that has a solution of -20.

Name_____ Date _____

3.5 Solving Two-Step Equations

For use with Activity 3.5

Essential Question How can you use algebra tiles to solve a two-step equation?

1 ACTIVITY: Solving a Two-Step Equation

Work with a partner. Use algebra tiles to model and solve $2x - 3 = -5$.

Model the equation $2x - 3 = -5$.
Draw a sketch of your tiles.

Remove the _____ red tiles on the left side by adding _____ yellow tiles to each side.

How many *zero pairs* can you remove from each side?
Circle them.

Because there are _____ green tiles, divide the red tiles into _____ equal groups.
Circle the groups.

Keep one of the groups. This shows the value of x.
Draw a sketch of the remaining tiles.

$x =$ _____.

2 ACTIVITY: The Math behind the Tiles

Work with a partner. Solve $2x - 3 = -5$ without using algebra tiles. Complete each step. Then answer the questions.

a. Which step is first, adding 3 to each side or dividing each side by 2?

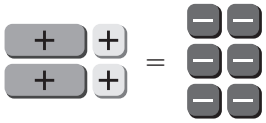
b. How are the above steps related to the steps in Activity 1?

3 ACTIVITY: Solving Equations Using Algebra Tiles

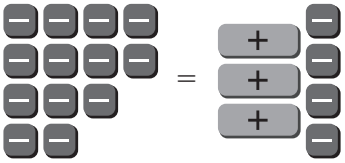
Work with a partner.

- **Write an equation shown by the algebra tiles.**
- **Use algebra tiles to model and solve the equation.**
- **Check your answer by solving the equation without using algebra tiles.**

a.



b.



4 ACTIVITY: Working Backwards

Work with a partner.

a. Your friend pauses a video game to get a drink. You continue the game. You double the score by saving a princess. Then you lose 75 points because you do not collect the treasure. You finish the game with –25 points. How many points did you have when you started?

One way to solve the problem is to work backwards. To do this, start with the end result and retrace the events.

You started the game with _____ points.

3.5 Solving Two-Step Equations (continued)

b. You triple your account balance by making a deposit. Then you withdraw $127.32 to buy groceries. Your account is now overdrawn by $10.56. By working backwards, find your account balance before you made the deposit.

What Is Your Answer?

5. IN YOUR OWN WORDS How can you use algebra tiles to solve a two-step equation?

6. When solving the equation $4x + 1 = -11$, what is the first step?

7. REPEATED REASONING Solve the equation $2x - 75 = -25$. How do your steps compare with the strategy of working backwards in Activity 4?

Name _____ Date _____

3.5 Practice

Solve the equation. Check your solution.

1. $3k - 2 = 10$

2. $5p + 2 = -10$

3. $-4x + 3 = -11$

4. $12 = 2d + 3.2$

5. $-1 - 5h = 14$

6. $1.25r - 7 = 2.5$

7. $-4k + 3.6 = 7.8$

8. $6 + 2n = 3$

9. $4y - 16.3 = 53.1$

10. $\frac{1}{2}b + \frac{9}{4} = \frac{7}{4}$

11. $\frac{5}{6} + 3j = -\frac{2}{3}$

12. $-\frac{9}{10}p - 3 = \frac{3}{5}$

In Exercises 13–15, write an equation. Then solve.

13. It costs \$4 to enter the fair. Each ride costs \$2.50. You have \$21.50. How many rides can you go on?

14. The cable company charges a monthly fee of \$45. Each movie rental is \$1.99. You owe \$68.88. How many movies did you rent?

15. The perimeter of the rectangle is 24 feet. What is the width of the rectangle?

Solve the equation. Check your solution.

16. $7c - 2c = 45$

17. $3(k - 5) = -16$

18. $-2(m + 1) = 10$

19. The senior class has 412 students. They are assigned to different homerooms. There are 28 students in the smallest homeroom and the remaining 12 homerooms have the same number of students. How many students are in each of the remaining 12 homerooms?

20. You purchased paint for the rooms in your house. You have 1.5 cans of paint left. You painted 4 rooms and each room required 2 cans of paint. You spilled $\frac{1}{2}$ of a can of paint. How many cans of paint did you purchase?

a. Solve the problem by working backwards.

b. Solve the equation $\frac{x - 2}{4} = 2$. How does the answer compare to part (a)?

Name_____ Date _____

3.6 Writing and Graphing Inequalities

For use with Activity 3.6

Essential Question How can you use a number line to represent solutions of an inequality?

1 ACTIVITY: Understanding Inequality Statements

Work with a partner. Read the statement. Circle each number that makes the statement true, and then answer the questions.

a. "Your presentation must be **more than** 4 minutes long."

–3 –2 –1 0 1 2 3 4 5 6

- What do you notice about the numbers that you circled?
- Is the number 4 included? Why or why not?
- Write four other numbers that make the statement true.

b. "Your account balance is **less than** $0."

–5 –4 –3 –2 –1 0 1 2 3 4

- What do you notice about the numbers that you circled?
- Can the balance be exactly 0 dollars? Explain.
- Write four other numbers that make the statement true.

c. "**At least** 5 parents came along on the field trip."

–1 0 1 2 3 4 5 6 7 8

- What do you notice about the numbers that you circled?

- Is the number 5 included? Why or why not?

- Write four other numbers that make the statement true.

d. "The temperature is **no more than** -3 degrees Fahrenheit."

–7 –6 –5 –4 –3 –2 –1 0 1 2

- What do you notice about the numbers that you circled?

- Can the temperature be exactly -3 degrees Fahrenheit? Why or why not?

- Write four other numbers that make the statement true.

2 ACTIVITY: Understanding Inequality Symbols

Work with a partner. Circle the value or values of *x* that satisfy each inequality.

a. $x \geq 2$.

–10 –3 0 2 4 6 9

b. $x < 10$.

–2 3 5 8 10 12 17

c. $x \leq 1$

–10 –6 0 1 5 8 15

d. $x < -3$

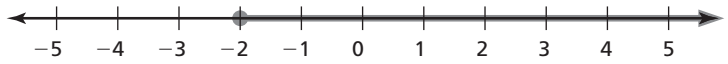
–10 –7 –3 –1 0 4 8

3.6 Writing and Graphing Inequalities (continued)

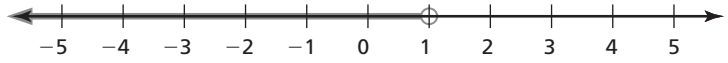
3 ACTIVITY: Writing and Graphing of Inequalities

Work with a partner. Write an inequality for each graph. Then, in words, describe all the values of x that make the inequality true.

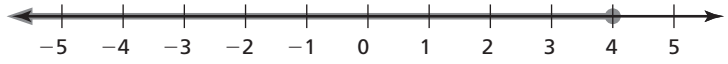
a.



b.



c.



What Is Your Answer?

4. IN YOUR OWN WORDS How can you use a number line to represent solutions of an inequality?

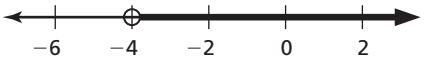
5. Explain the difference between the statements "less than 5" and "no more than 5." How can you show this difference on a number line?

Name _____ Date _____

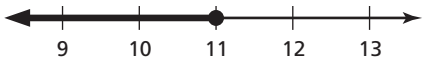
3.6 Practice

Write an inequality for the graph. Then, in words, describe all the values of *x* that make the inequality true.

1.



2.



Write the word sentence as an inequality.

3. A number x is at least 15.

4. A number r added to 3.7 is less than 1.2.

5. A number h divided by 2 is more than -5.

6. A number a minus 8.2 is no greater than 12.

Tell whether the given value is a solution of the inequality.

7. $p + 1.7 \geq -4;\ p = -9$

8. $-3y < -5;\ y = 1$

9. $1.5g \leq 6;\ g = 0$

10. $\frac{3}{4} - d > \frac{1}{3};\ d = \frac{1}{2}$

Graph the inequality on a number line.

11. $\ell \leq 3.5$

12. $m > -15$

13. To get a job at the local restaurant, you must be at least 16 years old. Write an inequality that represents this situation.

14. In order to qualify for a college scholarship, you must have acceptable scores in either the SAT or the ACT along with the following requirements: a minimum GPA of 3.5; at least 12 credits of college preparatory academic courses; and at least 75 hours of community service.

a. Write and graph three inequalities that represent the requirements.

b. Your cousin has a GPA of 3.6, 15 credits of college preparatory class, and 65 hours of community service. Other than the test scores, does your cousin satisfy the requirements? Explain.

c. Your friend has a GPA of 3.8, 12 credits of college preparatory class, and 90 hours of community service. Other than the test scores, does your friend satisfy the requirements? Explain.

Name_____ Date _____

3.7 Solving Inequalities Using Addition or Subtraction

For use with Activity 3.7

Essential Question How can you use addition or subtraction to solve an inequality.

1 ACTIVITY: Writing an Inequality

Work with a partner. In 3 years, your friend will still not be old enough to vote.

a. Which of the following represents your friend's situation? What does x represent? Explain your reasoning.

$x + 3 < 18$ $x + 3 \leq 18$ $x + 3 > 18$ $x + 3 \geq 18$

b. Graph the possible ages of your friend on a number line. Explain how you decided what to graph.

2 ACTIVITY: Writing an Inequality

Work with a partner. Baby manatees are about 4 feet long at birth. They grow to a maximum length of 13 feet.

a. Which of the following can represent a baby manatee's growth? What does x represent? Explain your reasoning.

$x + 4 < 13$ $x + 4 \leq 13$ $x - 4 > 13$ $x - 4 \geq 13$

b. Graph the solution on a number line. Explain how you decided what to graph.

3.7 Solving Inequalities Using Addition or Subtraction (continued)

3 ACTIVITY: Solving Inequalities

Work with a partner. Complete the following steps for Activity 1. Then repeat the steps for Activity 2.

- Use your inequality from part (a). Replace the inequality symbol with an equal sign.

- Solve the equation.

- Replace the equal sign with the original inequality symbol.

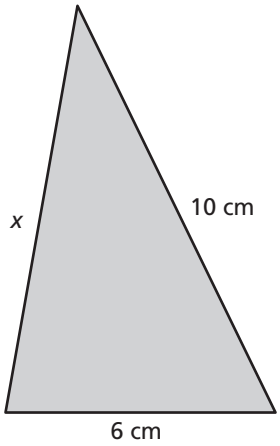
- Graph this new inequality.

- Compare the graph with your graph in part (b). What do you notice?

3.7 Solving Inequalities Using Addition or Subtraction (continued)

4 ACTIVITY: The Triangle Inequality

Work with a partner. Draw different triangles whose sides have lengths 10 cm, 6 cm, and x cm.



a. Which of the following describes how *small* x can be? Explain your reasoning.

$6 + x < 10$ $\quad$ $6 + x \leq 10$

$6 + x > 10$ $\quad$ $6 + x \geq 10$

b. Which of the following describes how *large* x can be?

$x - 6 < 10$ $\quad$ $x - 6 \leq 10$ $\quad$ $x - 6 > 10$ $\quad$ $x - 6 \geq 10$

c. Graph the possible values of x on a number line.

What Is Your Answer?

5. IN YOUR OWN WORDS How can you use addition and subtraction to solve an inequality?

6. Describe a real-life situation that you can represent with an inequality. Write the inequality. Graph the solution on a number line.

Name _____ Date _____

3.7 Practice

Solve the inequality. Graph the solution.

1. $n - 9 \geq 2$

2. $v + 10 \leq 14$

3. $p + \frac{1}{4} < \frac{5}{4}$

4. $x - 3 > 8$

5. $20 < k + 15$

6. $\frac{4}{5} \leq m - \frac{1}{5}$

7. $12 \geq h - 8$

8. $4.4 > 2.4 + b$

9. $w - 36 \leq 64$

10. $a + 16 \geq 25$

11. $r + \frac{2}{3} > \frac{8}{3}$

12. $y - 19 < 51$

Write the word sentence as an inequality. Then solve the inequality.

13. 6 more than a number is at most 10.

14. Four less than a number is more than 3.

15. 0.6 is no less than 2.4 subtracted from a number.

16. The sum of a number and 14 is at least 18.

Describe and correct the error in solving the inequality.

17.

$$\begin{array}{rr} 3 > g - 4 & \\ \underline{+4} & \underline{+4} \\ 7 < g & \end{array}$$

18.

$$\begin{array}{rr} x + 5 \geq 11 & \\ \underline{-5} & \underline{+5} \\ x \geq 16 & \end{array}$$

19. You can spend at most $10 at the mall. You want to buy a book that costs $6.75 and a cold drink. Write and solve an inequality to represent the amount of money you can spend on your cold drink.

20. An order from an online bookstore takes at least four weeks to arrive. You ordered some books online nine days ago. Write and solve an inequality to represent the possible number of days it will take for your books to arrive.

21. The school auditorium can hold at most 480 people. There were 185 advance tickets sold for the school play. Write and solve an inequality to represent the number of people who can attend the play if all the people who bought advance tickets attend the play.