

Summer Homework Instructions for Math 7:

\*\*\*\*PLEASE READ FIRST\*\*\*\*

The first 3 pages have Review on top half where it shows you how to do the problems. (There is a picture of a dog on the top of these)

\*\*YOU COMPLETE THE BOTTOM HALF of the 3 pages WHERE IT SAYS PRACTICE MAKES PURR-FECT\*\*

Complete all other pages.

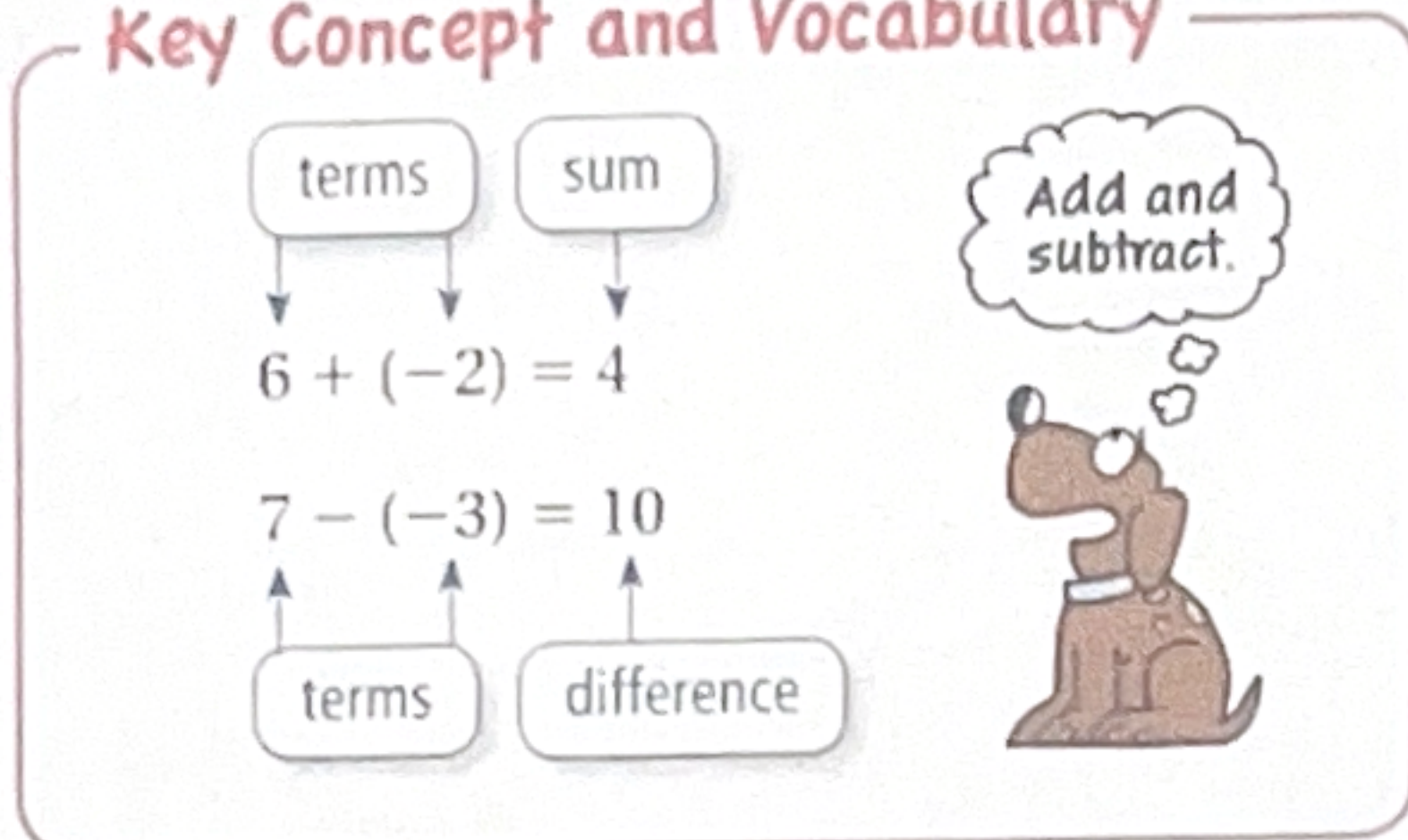
There is one full page of completed “solving one -step equations”. Use these examples to help you complete the “practice with 1 step equations” and “solving linear equations”.

Have a great summer and looking forward to seeing you in August!

# REVIEW: Adding and Subtracting Integers

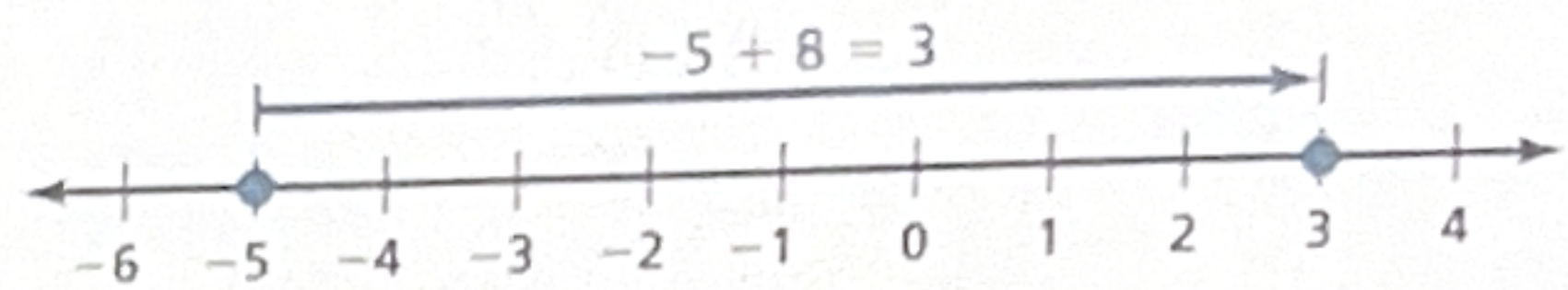
Name \_\_\_\_\_

## Key Concept and Vocabulary



## Visual Model

To add a positive number, move to the *right*.



To subtract a positive number, move to the *left*.

## Skill Examples

1.  $5 + (-3) = 5 - 3 = 2$

2.  $5 - (-2) = 5 + 2 = 7$

3.  $-2 + 4 = 2$

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

5.  $8 - (-3) = 8 + 3 = 11$

To subtract, change the sign and add.

## Application Example

6. The temperature is  $8^{\circ}\text{F}$  in the morning and drops to  $-5^{\circ}\text{F}$  in the evening. What is the difference between these temperatures?

$$8 - (-5) = 8 + 5 = 13$$

∴ The difference is 13 degrees.

## PRACTICE MAKES PURR-FECT™



Check your answers at [BigIdeasMath.com](http://BigIdeasMath.com).

Find the sum or difference.

7.  $-2 + 3 = \underline{\quad}$

8.  $-4 - 5 = \underline{\quad}$

9.  $8 - 2 = \underline{\quad}$

10.  $8 - (-2) = \underline{\quad}$

11.  $-4 - (-1) = \underline{\quad}$

12.  $-5 + (-5) = \underline{\quad}$

13.  $4 - (-8) = \underline{\quad}$

14.  $4 - 8 = \underline{\quad}$

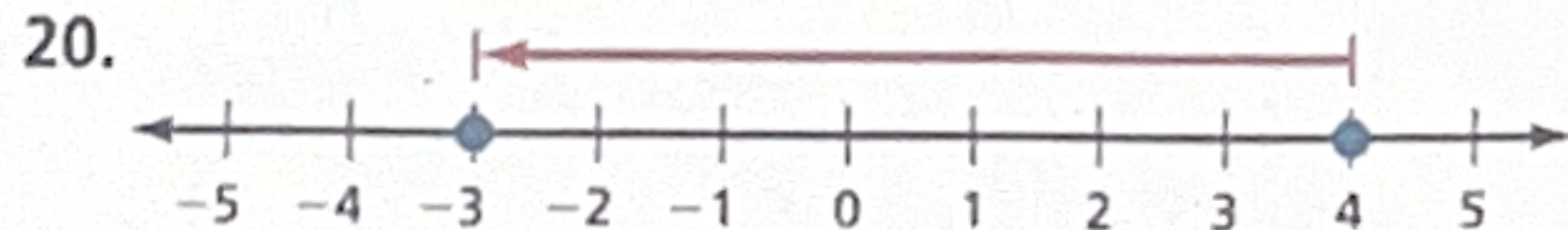
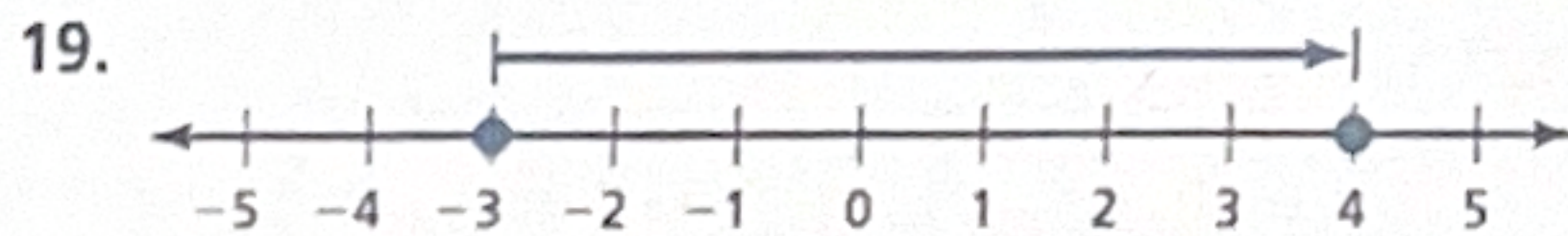
15.  $-4 + (-6) = \underline{\quad}$

16.  $-4 - (-6) = \underline{\quad}$

17.  $10 - 13 = \underline{\quad}$

18.  $13 - (-10) = \underline{\quad}$

Write the addition or subtraction shown by the number line.



21. **TEMPERATURE** The temperature is  $16^{\circ}\text{F}$  in the morning and drops to  $-15^{\circ}\text{F}$  in the evening. What is the difference between these temperatures? \_\_\_\_\_

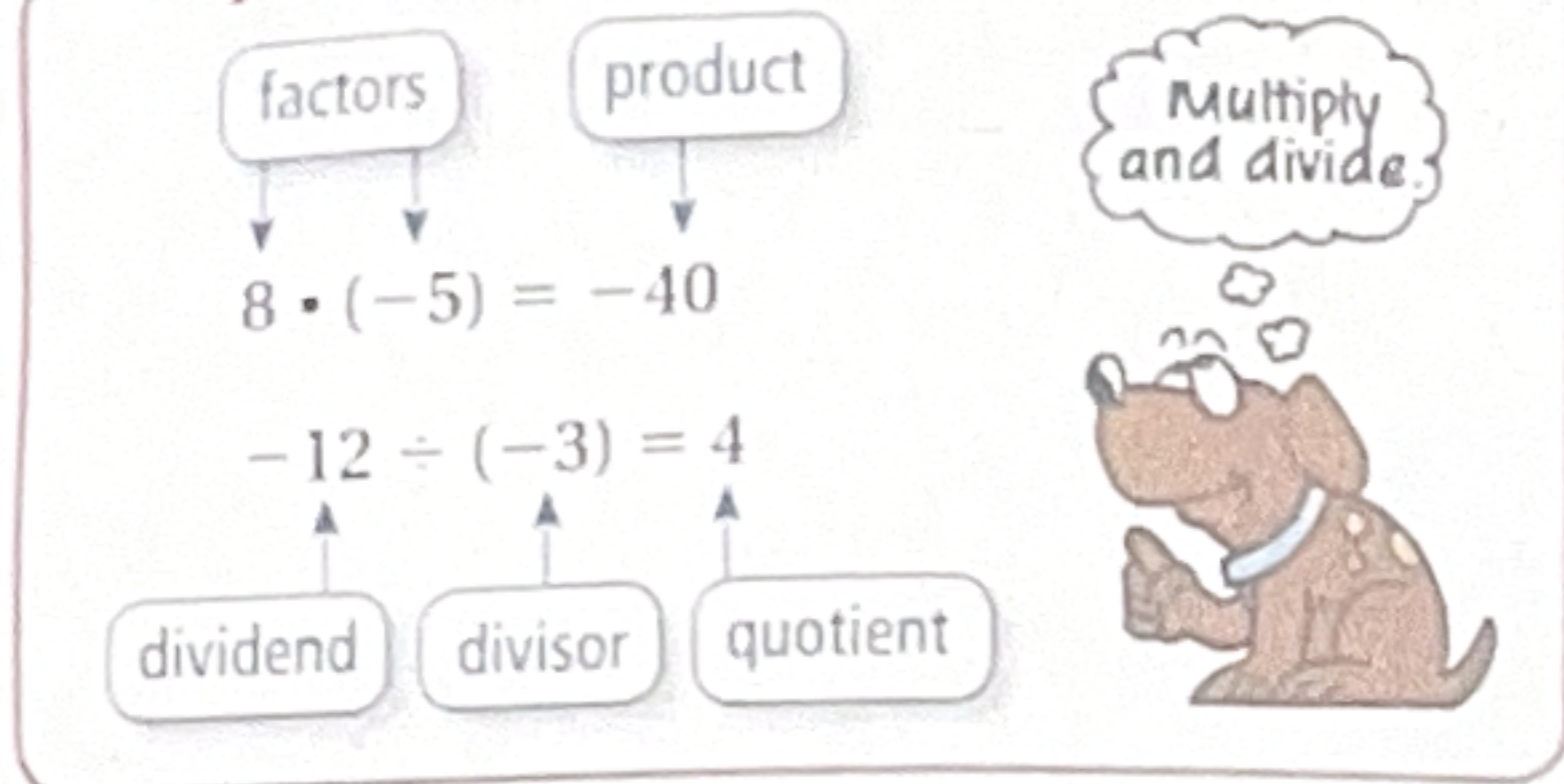
22. **SUBMARINE** A submarine is 450 feet below sea level. It descends 300 feet. What is its new position? Show your work.



# REVIEW: Multiplying and Dividing Integers

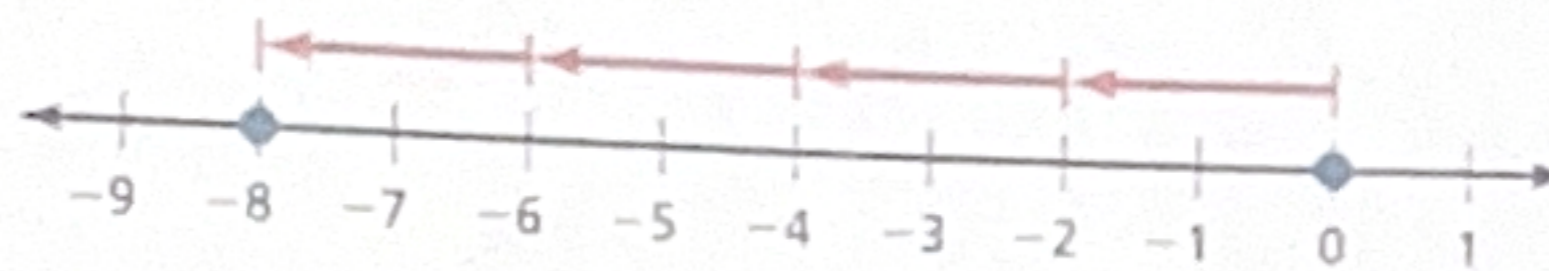
Name \_\_\_\_\_

## Key Concept and Vocabulary



## Visual Model

$$4 \cdot (-2) = (-2) + (-2) + (-2) + (-2)$$



## Skill Examples

- $-3 \cdot (-4) = 12$  ← same sign, product and quotient positive
- $-36 \div (-6) = 6$  ← same sign, product and quotient positive
- $-7 \cdot 0 = 0$
- $-10 \div 5 = -2$  ← different signs, product and quotient negative
- $-5 \cdot 6 = -30$  ← different signs, product and quotient negative

## Application Example

- Each of your six friends owes you \$5. Use integer multiplication to represent the total amount your friends owe you.

$$6 \cdot (-5) = -30$$

- The total amount owed is \$30.

## PRACTICE MAKES PURR-FECT™



Check your answers at [BigIdeasMath.com](http://BigIdeasMath.com).

Find the product or quotient.

- $-3 \times (-5) = \underline{\quad}$
- $7(-3) = \underline{\quad}$
- $0 \cdot (-5) = \underline{\quad}$
- $(-5)(-7) = \underline{\quad}$
- $-8 \cdot 2 = \underline{\quad}$
- $(-5)^2 = \underline{\quad}$
- $(-3)^3 = \underline{\quad}$
- $4(-2)(-3) = \underline{\quad}$
- $-16 \div 4 = \underline{\quad}$
- $-20 \div (-5) = \underline{\quad}$
- $\frac{-9}{3} = \underline{\quad}$
- $\frac{-20}{-10} = \underline{\quad}$

Complete the multiplication or division equation.

- $-15 \div \underline{\quad} = -3$
- $45 \div \underline{\quad} = -5$
- $\underline{\quad} \div (-20) = 5$
- $8 \cdot \underline{\quad} = -64$
- $\underline{\quad} \cdot (-9) = 27$
- $-12 \cdot \underline{\quad} = -96$

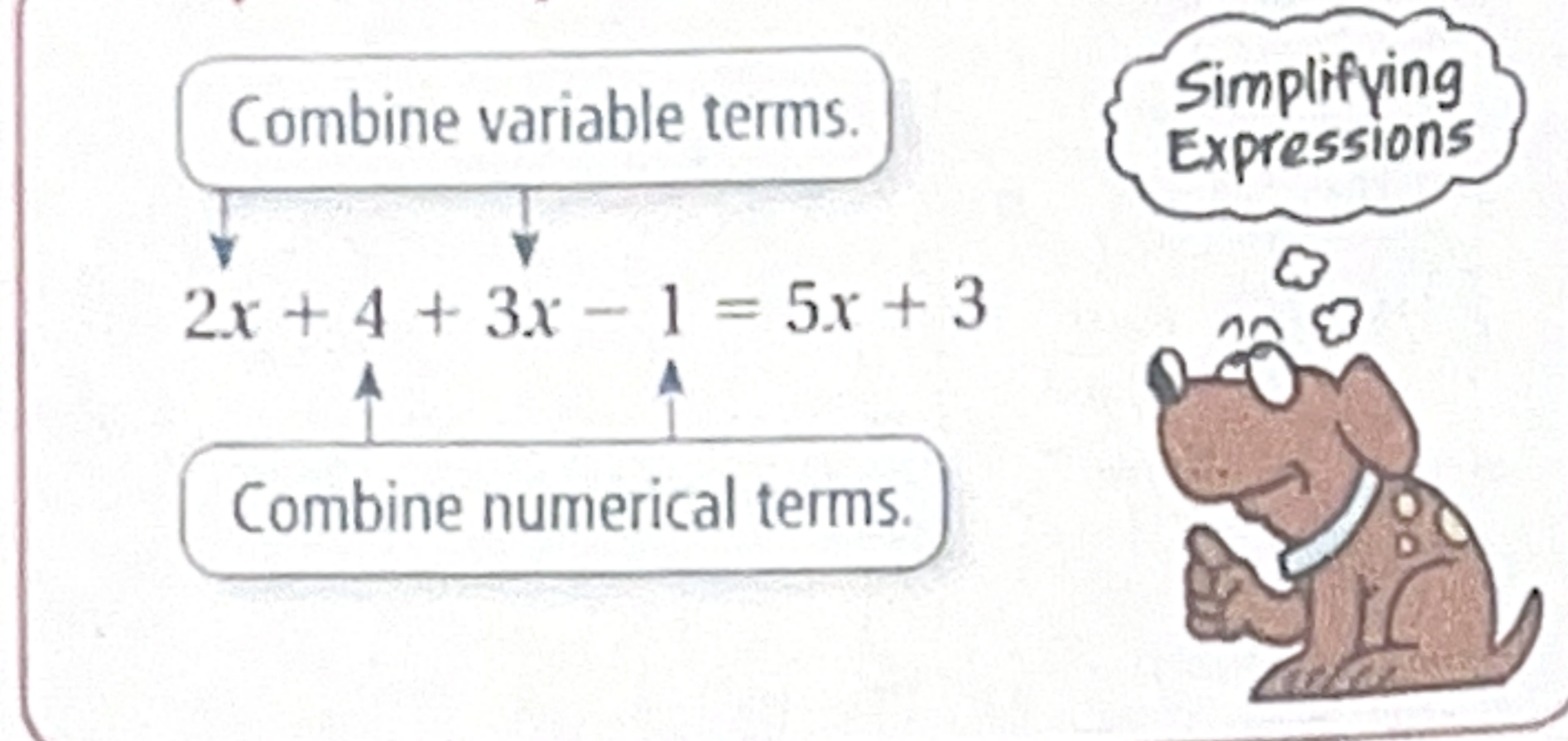
- TOTAL OWED** Each of your eight friends owes you \$10. Use integer multiplication to represent the total amount your friends owe you. \_\_\_\_\_

- TEMPERATURE** The low temperatures for a week in Edmonton, Alberta are  $-15^\circ\text{C}$ ,  $-12^\circ\text{C}$ ,  $-10^\circ\text{C}$ ,  $-12^\circ\text{C}$ ,  $-18^\circ\text{C}$ ,  $-20^\circ\text{C}$ , and  $-25^\circ\text{C}$ . What is the mean low temperature for the week? Show your work.  
\_\_\_\_\_  
\_\_\_\_\_

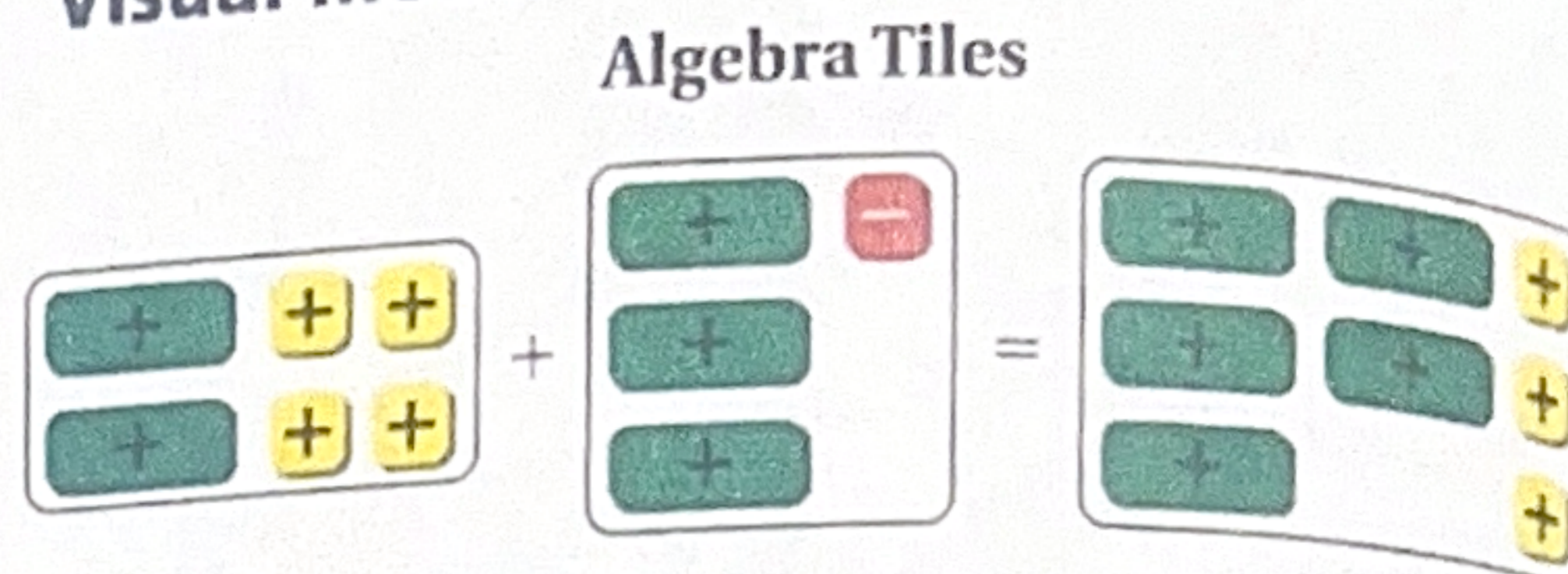
## REVIEW: Simplifying Expressions

Name \_\_\_\_\_

### Key Concept and Vocabulary



### Visual Model



### Skill Examples

- $2x + 5x = 7x$
- $1 + n + 4 = n + 5$
- $(2x + 3) - (x + 2) = x + 1$
- $2(y - 1) + 3(y + 2) = 5y + 4$

### Application Example

- The original cost of a shirt is  $x$  dollars. The shirt is on sale for 30% off. Write a simplified expression for the sale cost.



$$x - 0.3x = 0.7x$$

The sale cost is  $0.7x$ .

## PRACTICE MAKES PURR-FECT™

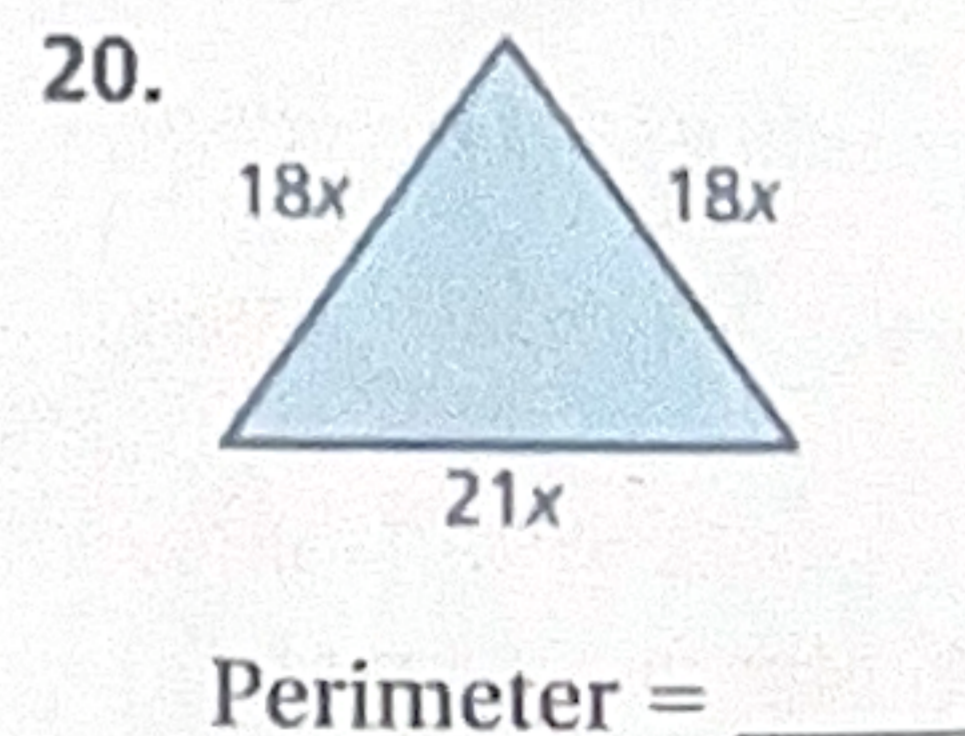
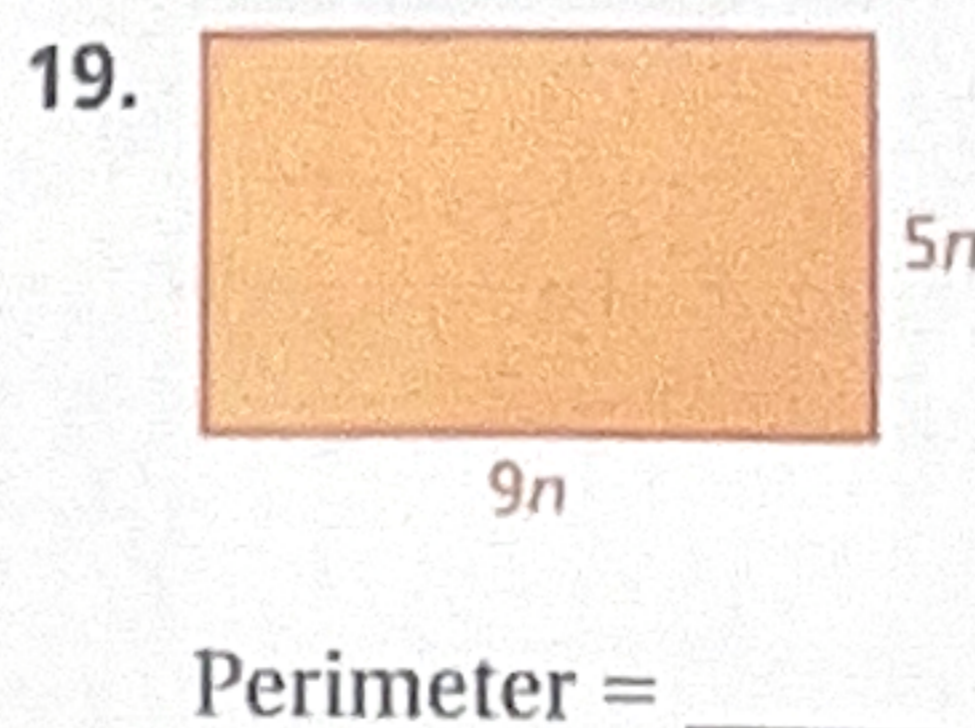
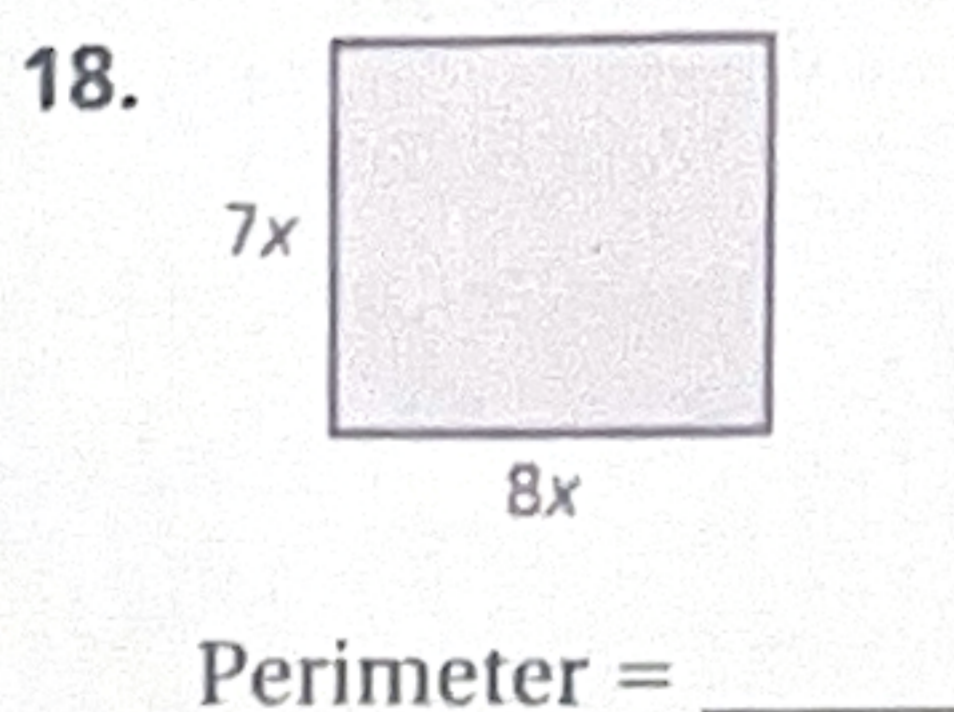


Check your answers at [BigIdeasMath.com](http://BigIdeasMath.com).

Simplify the expression. (Remove parentheses and combine like terms.)

- $4x + 6x =$  \_\_\_\_\_
- $9x + 3 - 6x - 2 =$  \_\_\_\_\_
- $7m - 2m + 5m =$  \_\_\_\_\_
- $(3x + 6) - x =$  \_\_\_\_\_
- $(x + 6) \div (x + 6) =$  \_\_\_\_\_
- $(5x + 4) - 2(x + 1) =$  \_\_\_\_\_
- $3n + 5 - 2n =$  \_\_\_\_\_
- $3(x + 2) =$  \_\_\_\_\_
- $2 - (x + 1) =$  \_\_\_\_\_
- $5 - (1 - n) =$  \_\_\_\_\_
- $(4x - 2) + 3(x + 1) =$  \_\_\_\_\_
- $5(x + 2) - 2(x + 2) =$  \_\_\_\_\_

Write a simplified expression for the perimeter of the rectangle or triangle.



- The original cost of a cell phone is  $x$  dollars. The phone is on sale for 35% off. Write a simplified expression for the sale cost. \_\_\_\_\_



Name: \_\_\_\_\_

## Distributive Property Practice

Simplify each expression using distributive property.

$$3(4x + 7)$$

Ans:  $12x + 21$

$$5(2y - 7)$$

$$- 2(3k + 6)$$

$$6(- 4 + w)$$

$$9(- x - 3)$$

$$- 10(4y - 8)$$

$$4(6m - 4)$$

Ans:  $24m - 16$

$$12(4x + 1)$$

$$3(5 - x)$$

$$- (4x + 3)$$

$$9(- 5p - 7)$$

$$- 7(7x + 2)$$

$$- 11(4y - 3)$$

Ans:  $- 44y + 33$

$$8(10 - m)$$

$$- 3(8h + 7)$$

$$11(2x + 4)$$

$$2(8x + 4)$$

$$5(6 - 3x)$$

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Pd: \_\_\_\_\_

# COMBINING LIKE TERMS

Directions: Simplify each expression by combining like terms.

#1  $-7 + 13x + 2x + 8$

Ex:  $15x + 1$

#2  $9 + 7y - 2 - 5y$

$2y + 7$

#3  $2 + 3x - 4x + 6$

#4  $5 + 2x + 2$

#5  $2(4x - 1) + x$

#6  $6x + 2(x + 4)$

#7  $3(x + 5) - 10$

#8  $15x - (x - 4)$

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Pd: \_\_\_\_\_

# SOLVING ONE-STEP EQUATIONS

Directions: Solve each equation. Show all work and check your answers.

#1

$$7x = 28$$

Ex:

$$\frac{7x}{7} = \frac{28}{7}$$

$$x = 4$$

#2

$$x - 15 = -27$$

Ex:

$$\begin{array}{r} x - 15 = -27 \\ +15 \quad +15 \\ \hline x = -12 \end{array}$$

#3

$$-16 + x = -6$$

Ex:

$$\begin{array}{r} -16 + x = -6 \\ +16 \quad +16 \\ \hline x = 10 \end{array}$$

#4

$$x + (-4) = 15$$

Ex:

$$\begin{array}{r} x - 4 = 15 \\ +4 \quad +4 \\ \hline x = 19 \end{array}$$

#5

$$x - (-6) = 11$$

Ex:

$$\begin{array}{r} x + 6 = 11 \\ -6 \quad -6 \\ \hline x = 5 \end{array}$$

#6

$$14 = 2x$$

Ex:

$$\begin{array}{r} 14 = 2x \\ \frac{14}{2} = \frac{2x}{2} \\ 7 = x \end{array}$$

#7

$$\frac{x}{3} = 10$$

Ex:

$$\begin{array}{r} (3) \frac{x}{3} = 10(3) \\ \frac{x}{3} \\ \hline x = 30 \end{array}$$

#8

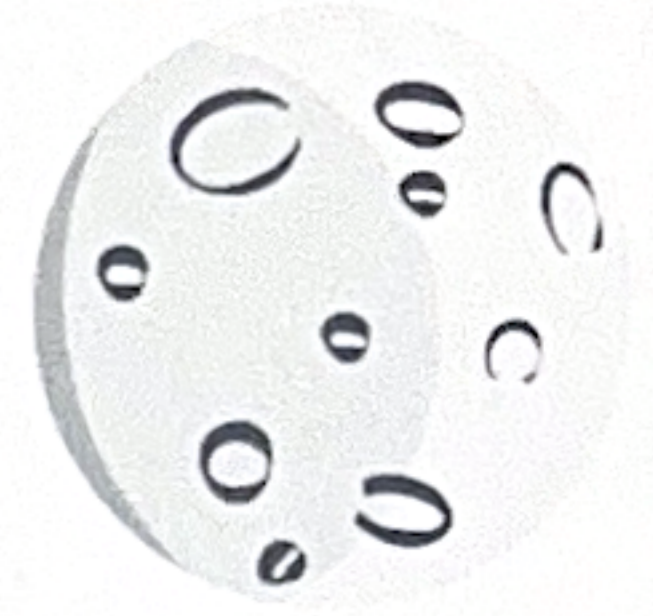
$$-6 = \frac{x}{4}$$

Ex:

$$\begin{array}{r} (4) -6 = \frac{x}{4} (4) \\ -24 = x \end{array}$$

## *Practice with 1 step equations*

*Name:*



1.  $x + 9 = 12$

6.  $x / 7 = 9$

2.  $x - 12 = 1$

7.  $x - 13 = 17$

3.  $x + 17 = 40$

8.  $x(12) = 108$

4.  $x(4) = 32$

9.  $x(10) = 90$

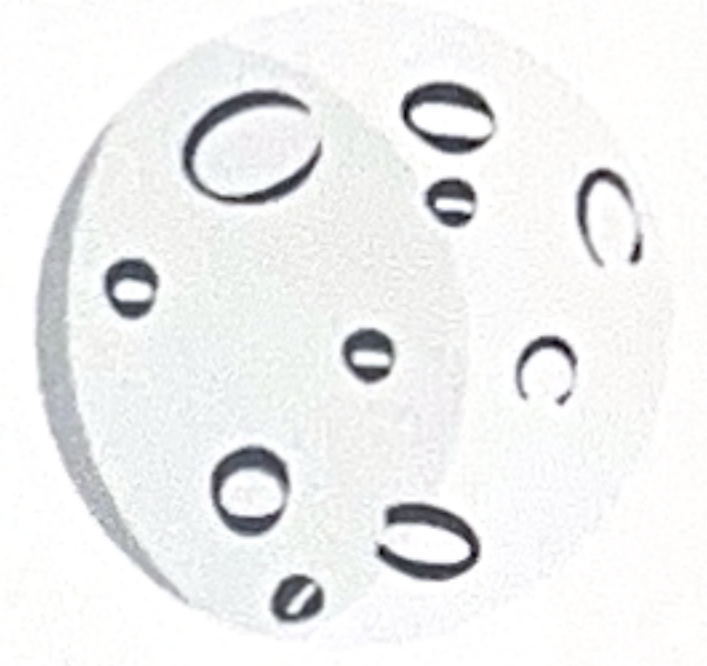
5.  $x / 8 = 11$

10.  $x + 19 = 42$



$$11. x(11) = 121$$

$$17. x/6 = 54$$



$$12. x - 100 = 100$$

$$18. x + 58 = 107$$

$$13. x / 1 = 13$$

$$19. x / 3 = 12$$

$$14. x(8) = 24$$

$$20. x(6) = 24$$

$$15. x + 31 = 99$$

$$21. x - 23 = 39$$

$$16. x - 116 = 221$$

$$22. x / 9 = 72$$



Name: \_\_\_\_\_



# Solving Linear Equations

Directions: Solve the following equations.

Ex: 1.  $\frac{3x}{3} = \frac{12}{3}$        $x = 4$

Ex: 2.  $3x - 6 = 12$   
 $\quad +6 \quad +6$   

---

 $3x = 18$   
 $\div 3 \quad \div 3$   
3.  $-4x = 20$        $x = 6$

4.  $-4x + 8 = 20$

5.  $5x = -30$

6.  $-10 + 5x = 30$

7.  $6x = -24$

8.  $-6 - 6x = -24$

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## ROUNDING DECIMALS

NUMBER	WHOLE NUMBER	TENTHS	HUNDREDTHS
<i>Example</i> 9.626	10	9.6	9.63
6.7431			
5.972			
0.7391			
3.229			
45.801			
302.210			
8.9021			
1.187			
32.092			
7.999			

# Order Of Operations

Name : \_\_\_\_\_

Class : \_\_\_\_\_

Rules :

1. Parentheses
2. Exponents
3. Multiply and Divide (from left to right)
4. Addition and Subtraction ( from left to right)

Answer the questions below!

1.  $7 + 3 \times 5 = 22$

2.  $35 \div 5 \times 4 =$

3.  $12 + 8 \div 2 \times 6 =$

4.  $16 \times (3 + 1) - 29 =$

5.  $3^2 + 28 - 14 = 23$

6.  $4 \times (5 + 6 - 3) =$

7.  $38 - 8 \div 4 + 12 =$

8.  $48 \div 6 \times 3 + (14 - 12) =$

9.  $28 + 57 - 17 =$

10.  $20 + (8 - 5)^2 \times 3 =$

11.  $2^2 \times 16 - (32 + 22) =$

12.  $40 - 32 + 22 =$

13.  $27 \div 3 \times 2 + 13 =$

14.  $70 - 7 \times (4 - 1)^2 =$

15.  $25 - 6 \times 2^2 =$

16.  $45 \div (10 - 5) \times 3 =$

17.  $6 \times 8 - 11 + (16 \div 2) =$

18.  $(12 + 13) \times 5 - 20 =$

19.  $(7 + 8) \div (25 - 22) =$

20.  $18 + 6 \times 2 - 22 =$

Find your answer here

5

31

23

66

27

30

26

1

27

22

35

68

30

47

10

28

45

55

8

48

7

17

105

32

36