



## Teacher's Resource Masters

**ACCELERATED GRADE 7 VOLUME 2**

### Topics 7–13

Home-School Connection Letters

Pick a Project

**enVision®** STEM Project

Reteach to Build Understanding

Additional Vocabulary Support

Build Mathematical Literacy

Enrichment

Teaching Tools

**enVision®** Mathematics



## Topic 11 Congruence and Similarity

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Topic 11 Home-School Connection (English and Spanish)

Topic 11 Pick a Project A–D

Topic 11 **enVision**® STEM Project

Reteach to Build Understanding ..... 11-1 through 11-10

Additional Vocabulary Support ..... 11-1 through 11-10

Build Mathematical Literacy ..... 11-1 through 11-10

Enrichment..... 11-1 through 11-10

## Topic 12 Understand and Apply the Pythagorean Theorem

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Topic 12 Home-School Connection (English and Spanish)

Topic 12 Pick a Project A–D

Topic 12 **enVision**® STEM Project

Reteach to Build Understanding ..... 12-1 through 12-4

Additional Vocabulary Support ..... 12-1 through 12-4

Build Mathematical Literacy ..... 12-1 through 12-4

Enrichment..... 12-1 through 12-4

## Topic 13 Solve Problems Involving Surface Area and Volume

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Topic 13 Home-School Connection (English and Spanish)

Topic 13 Pick a Project A–D

Topic 13 **enVision**® STEM Project

Reteach to Build Understanding ..... 13-1 through 13-4

Additional Vocabulary Support ..... 13-1 through 13-4

Build Mathematical Literacy ..... 13-1 through 13-4

Enrichment ..... 13-1 through 13-4

**Teaching Tools** .....1–39

# Analyze and Solve Linear Equations

Dear Family,

Your child is learning to interpret, represent, and solve multistep equations in mathematical and real-world contexts. Your child is also studying graphs and equations of lines in the coordinate plane and learning to identify slopes and y-intercepts. Here is an activity to help your child understand connections between linear equations and graphs.

## Slope and Graphs

**Materials:** All cards numbered 2 through 6 from a standard deck of playing cards; graph paper

**Step 1** Shuffle the cards and place two cards face up. Red cards represent negative numbers and black cards represent positive numbers.

**Step 2** Working with your child, use the two numbers to create a slope ratio,  $m = \frac{\text{rise}}{\text{run}}$ .

For example, a red 2 and a black 6 can be used to create the ratios  $\frac{-2}{6}$  or  $\frac{6}{-2}$ .

**Step 3** Graph the equation  $y = mx$ . Starting at the origin, move vertically the number of units indicated by the rise—down if the rise is negative and up if the rise is positive. Then move horizontally the number of units indicated by the run—left if the run is negative and right if the run is positive. Graph a point and draw a line through this point and the origin.

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## Observe Your Child

### Focus on Mathematical Practices

Model with mathematics

Help your child become proficient with this Mathematical Practice. Take a stroll or drive with your child and look for real-world examples of slope. For example, compare the slope of a wheelchair ramp with the slope of a roof. Discuss the importance of the slope in each design.

Johann sold 9 of his video games online. The next day, he sold 27 video games. He collected a total of \$900. If Johann charged the same amount for each video game, how much did he sell each game for?

$$9x + 27x = 900$$

Write an equation.

$$36x = 900$$

Combine like terms.

$$\frac{36x}{36} = \frac{900}{36}$$

Divide each side by 36.

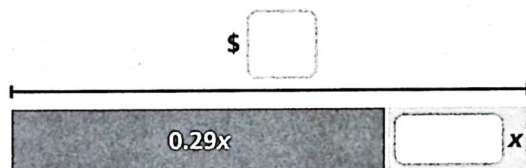
$$x = 25$$

Simplify.

Johann sold each game for \$25.

Joshua makes earrings to sell at craft fairs. Each pair of earrings contains the same number of wooden beads as glass beads. For each pair, Joshua spends a total of \$0.29 on the wooden beads and \$0.11 on the glass beads. How many pairs of earrings,  $x$ , can Joshua make if he has \$20 to spend on beads?

1. Use the information in the problem to complete the bar diagram.



2. Write an equation to represent the bar diagram.
3. What are the like terms in your equation from Exercise 2? Rewrite the equation by combining the like terms.
4. Divide each side of the equation by the same number to solve for  $x$ . How many pairs of earrings can Joshua make?

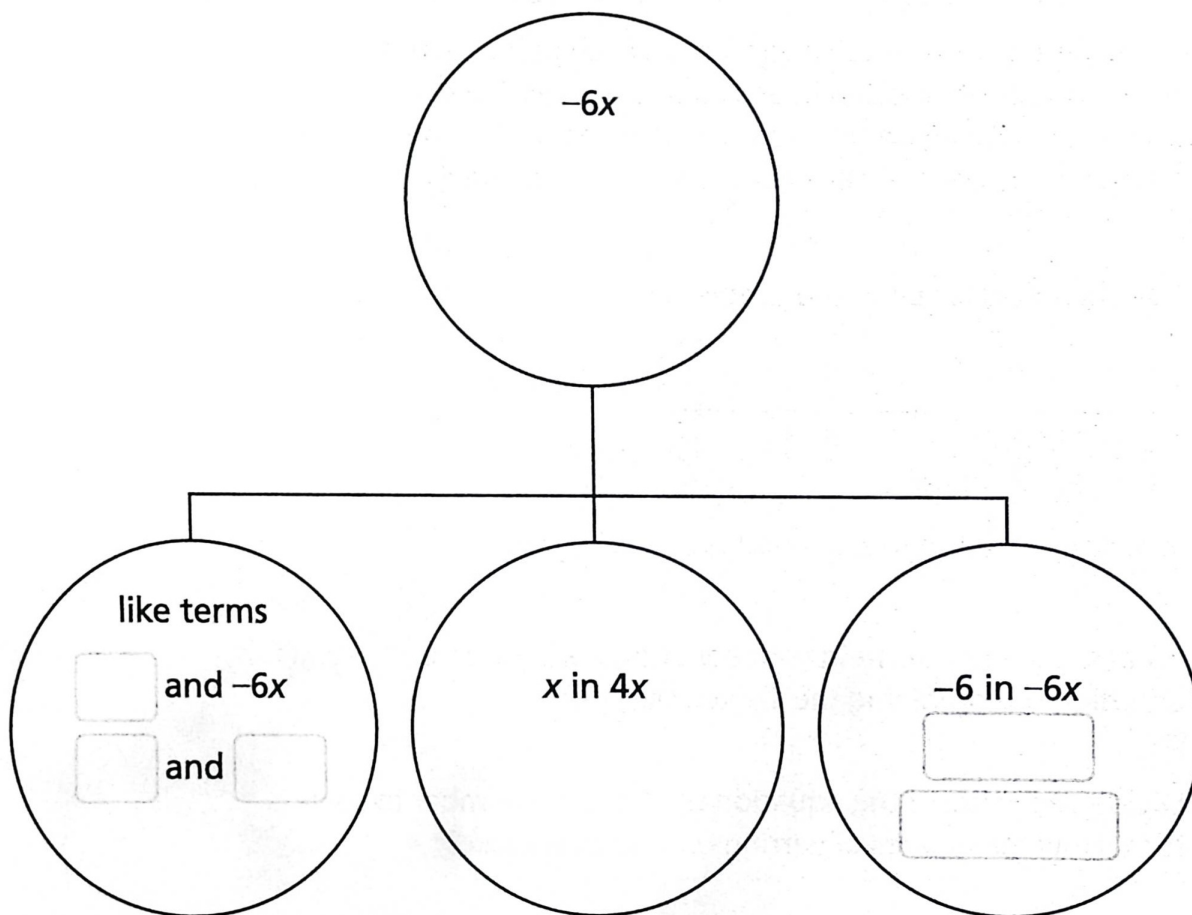
## On the Back!

5. Irene owns a bakery. For each cake, she spends  $\frac{1}{4}$  of an hour to make frosting and  $\frac{2}{5}$  hour to decorate. How many cakes can Irene frost and decorate in  $3\frac{1}{4}$  hours?

Name \_\_\_\_\_

Each section of the graphic organizer contains a vocabulary term and examples of the term. Use the list below to complete the graphic organizer.

coefficients	terms	variables
$4x$	$2y$	$-3y$
2 in $2y$	$-3$ in $-3y$	$x$ in $4x$





Name \_\_\_\_\_

**Read the problem below. Then answer the questions to understand the problem.**

Taylor buys a skateboard for \$51.84. The price includes 8% sales tax. The equation  $p + 0.08p = 51.84$  can be used to find the price of the skateboard before sales tax. What is the price of the skateboard before the sales tax is applied?

1. Underline the question that you need to answer.
2. What does the variable  $p$  represent?
3. Circle the expression below that represents the sales tax.  
 $p$        $0.08p$        $p + 0.08p$       51.84
4. Explain the meaning of the expression  $p + 0.08p$ .
5. Highlight the like terms in the given equation.
6. Why is it necessary to combine like terms to solve the given equation?