

KEY CONCEPT OVERVIEW

In this topic, students list various words and phrases used to refer to addition, subtraction, multiplication, and division. For example, addition terms include *sum*, *add*, *more than*, *total*, and *altogether*. Students then use the words and phrases they listed to write expressions in various forms. For example, $a - b$ can be written as a minus b , the difference of a and b , a decreased by b , and b subtracted from a . Students also write algebraic expressions for given phrases. For example, the phrase *triple the sum of x and 17* can be written as $3(x + 17)$.

You can expect to see homework that asks your child to do the following:

- List vocabulary words that can describe a given expression. For example, *subtract*, *difference*, *triple*, and *product* are words that can be used in reference to the expression $15 - 3x$.
- Write an expression in words to match a given algebraic expression. For example, $x + 2$ can be written as *two more than x* or *the sum of x and 2*.
- Write an algebraic expression to match a given phrase. For example, *eight minus the product of 2 and g* can be written as $8 - 2g$.

SAMPLE PROBLEM (From Lesson 16)

Write a symbolic expression that matches the real-world scenario below. Before writing the expression, underline mathematical terms in the text that you could represent as numbers, variables, or symbols in the expression.

Marcus has 4 more dollars than Yaseen. If y is the amount of money Yaseen has in dollars, write an expression to show how much money Marcus has.

Step 1: Underline mathematical words that could be used to create a symbolic expression.

Marcus has 4 more dollars than Yaseen.

Step 2: Think through the problem. If Yaseen had \$7, how much money would Marcus have?

\$11

Step 3: How did you get that?

I added 7 and 4.

Step 4: Write an expression to show how much money, in dollars, Marcus has using y to represent the amount of money, in dollars, Yaseen has.

$y + 4$

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

You can help at home in many ways. Here are some tips to help you get started.

- Ask your child to write the expressions $d - b^3$ and $\frac{3}{d+f}$ using words. First, brainstorm some mathematical words that describe the operations involved (e.g., sum, difference, cubed, quotient, increased by). Then, write at least one possible way to represent the expression in words. If your child is up for a challenge, have her write more than one version of the expression in words. There are multiple correct answers. For the first expression, your child might suggest “ d minus b cubed” or “the difference of d and the quantity of b to the third power.” For the second, your child might suggest “the quotient of 3 and the sum of d and f ” or “3 divided by the quantity d plus f .”
- Write an algebraic expression using variables and numbers to represent the following statement: *I had c pieces of candy. I ate 3 pieces. I split the remaining pieces equally among two friends.* A possible answer is $(c - 3) \div 2$.