EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

In Lessons 3 through 9, students learn to multiply multi-digit whole numbers by using the **area model** (as shown in the Sample Problem below).

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

- Change an expression written in word form to one written in number form, and vice versa. For example, *the sum of* 3 *sixteens and* 2 *nines* can be written as $(3 \times 16) + (2 \times 9)$.

- Solve multi-digit multiplication problems by using mental math. For example, consider the problem 19×15.

  Think: 20 fifteens – 1 fifteen

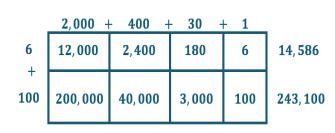 $= (20 \times 15) - (1 \times 15)$

  $= 300 - 15$

  $= 285$

- Estimate and solve problems, including word problems, that involve multi-digit whole number multiplication.

SAMPLE PROBLEM *(From Lesson 7)*

Draw an area model. Then solve by using the **standard algorithm**.

$2,431 \times 106 = \textbf{257,686}$

$$14,586 + 243,100 = 257,686$$

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

- Quiz your child on the difference between a sum and a **product**. Try to do simple mental math together involving both sums and products. For example, tell your child, "Think of the product of 2 and 3." (The answer is 6.) "Now think of the product of 3 and 4." (The answer is 12.) "What's the sum of those two products, 6 and 12?" (The answer is 18.)

- Practice using partial products while doing multiplication. This can be a two-person activity with you and your child. Use easier three-digit numbers. For example, try 300×120. Tell your child, "You figure out 300×100, and I'll figure out 300×20. Then we can add those two numbers together to get the result." ($300 \times 100 = 30,000$; $300 \times 20 = 6,000$; $30,000 + 6,000 = 36,000$)

TERMS

Product: The number resulting from the multiplication of two or more numbers. For example, in $4 \times 0.2 = 0.8$, the number 0.8 is the product.

Standard algorithm: A standard step-by-step procedure to solve a particular type of problem. For example, the process of multiplying vertically with regrouping is a standard algorithm.

MODELS

Area Model

$2,431 \times 106 = 257,686$

	$2,000$	$+$ 400	$+$ 30	$+$ 1	
6	$12,000$	$2,400$	180	6	$14,586$
$+$					
100	$200,000$	$40,000$	$3,000$	100	$243,100$

$14,586 + 243,100 = 257,686$