

FAMILY MATH

Multiplication of Tens and Ones by One-Digit Numbers

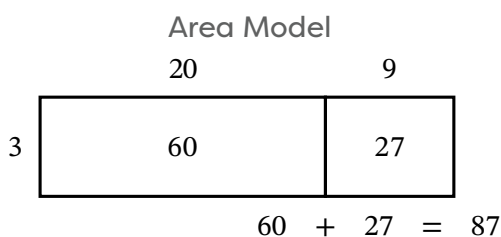
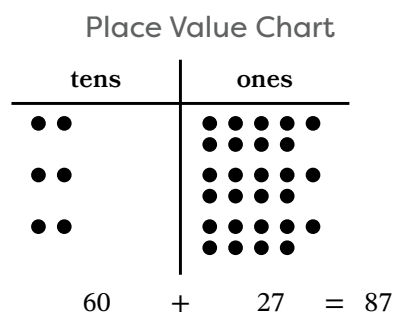
Dear Family,

Your student is learning to multiply a two-digit number by a one-digit number. They represent the numbers by using place value disks and the area model. To multiply, they break apart, or decompose, the two-digit number into tens and ones, multiply each part by the one-digit number, and then add to find the product. They record equations alongside the representations and see that breaking apart the two-digit number makes simpler problems that are easier to multiply. This strategy is familiar from grade 3 and is referred to as the break apart and distribute strategy. Now, students learn that this strategy is called the distributive property and it is helpful for multiplying larger numbers. Students practice the distributive property as they solve word problems that include a two-digit and a one-digit factor.

Key Terms

distributive property

partial product



Equation

$$\begin{aligned}
 3 \times 29 &= 3 \times (20 + 9) \\
 &= (3 \times 20) + (3 \times 9) \\
 &= 60 + 27 \\
 &= 87
 \end{aligned}$$

3×29 can be represented with models, such as a place value chart, an area model, or an equation. In each representation, 29 is broken into tens and ones: 2 tens and 9 ones. Each part is multiplied by 3. The partial products, 60 and 27, are added together to equal the product of 3×29 .

At-Home Activity

Break It Apart

Create a hands-on place value chart with your child by using small objects such as colored cereal loops or small blocks. Draw 2 columns on a piece of paper and label the columns as *tens* and *ones*. You can also use a tabletop, making a divider to separate the tens and ones columns with masking tape. Give your child a one-digit by two-digit multiplication problem, such as 2×23 , and have them represent the problem and find the product by using the small objects. For an equation such as 2×23 , your student should put 2 cereal pieces in the tens place and 3 cereal pieces in the ones place to show 23. To show that they are multiplying by 2, they need to

duplicate those cereal pieces so that they have 2 groups of 2 tens 3 ones. Along the way, ask the following questions to guide their thinking.

- “How can you show 23 on the place value chart? How can you show 2 times 23?”
- “How many tens are there? How many ones are there? What is 2 times 23?”