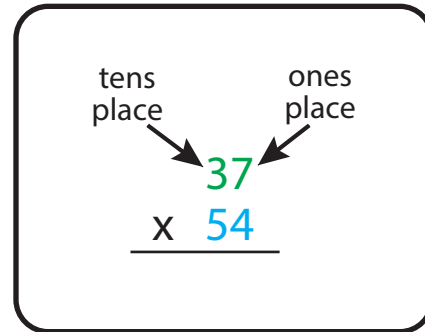


Name: \_\_\_\_\_

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

## An Introduction to Partial Products

**Partial products** is a way to multiply with a focus on place value. The numbers in each factor are multiplied with their full value to find **partial products**, which are *parts* of the complete answer.



First the ones place is multiplied by each of the numbers in the second factor. Then, the tens place is multiplied by each number.

The entire value of each place value is written out for each step of the problem.

Finally, the partial products are added together to find the **product** (answer).

    37  
x 54  
-----  
    28      (4 x 7)      ← partial product  
   120      (4 x 30)      ← partial product  
   350      (50 x 7)      ← partial product  
+ 1,500      (50 x 30)      ← partial product  
-----  
  1,998      ← product

A three in the tens place has a value of 30

### Why do we use this strategy?

Using partial products strengthens our foundational understanding of multiplication and place value, supports flexible thinking and number sense, and builds a conceptual understanding of standard algorithm.

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

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

## An Introduction to Partial Products

Try it! Solve each problem using partial products.

Example

$$\begin{array}{r} 25 \\ \times 42 \\ \hline 10 \quad (2 \times 5) \\ 40 \quad (2 \times 20) \\ 200 \quad (40 \times 5) \\ + 800 \quad (40 \times 20) \\ \hline 1,050 \end{array}$$

$$\begin{array}{r} 63 \\ \times 18 \\ \hline \quad \quad (8 \times 3) \\ \quad \quad (8 \times 60) \\ \quad \quad (10 \times 3) \\ + \quad \quad (10 \times 60) \\ \hline \end{array}$$

$$\begin{array}{r} 57 \\ \times 21 \\ \hline \end{array}$$

$$\begin{array}{r} 39 \\ \times 13 \\ \hline \end{array}$$

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

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

## An Introduction to Partial Products

Let's Review! Fill in the blank with the correct answer.

1. The answer to a multiplication problem is called the \_\_\_\_\_ .
2. A portion or part of an answer to a multiplication problem is called a \_\_\_\_\_ .
3. In the number 267, what is the value of the digit in the tens place? \_\_\_\_\_
4. In the number 719, what is the value of the digit in the ones place? \_\_\_\_\_
5. What is one reason to use this strategy for multiplication? \_\_\_\_\_  
\_\_\_\_\_
6. Peter tried using partial products to solve the problem  $23 \times 17$ , but he made a mistake.

$$\begin{array}{r} 23 \\ \times 17 \\ \hline 21 \quad (7 \times 3) \\ 14 \quad (7 \times 2) \\ 3 \quad (1 \times 3) \\ + 2 \quad (1 \times 2) \\ \hline 40 \end{array}$$

What would you tell Peter to help him correct his mistake?

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