

Practicing Multiplication Strategies

Connecting Methods



Self-Check: Question 1

Use the *Multiplication Strategies Menu for Larger Numbers* in the *Student Guide* Reference section to help you solve each problem.

1. Irma solved 4×539 using rectangles.

500	30	9	
4	$4 \times 500 = 2000$	$4 \times 30 = 120$	$4 \times 9 = 36$
			$\begin{array}{r} 2000 \\ 120 \\ + 36 \\ \hline 2156 \end{array}$

- A. Use her rectangles to fill in the blanks for the same problem using expanded form.

$$\begin{array}{r} 539 \\ \times 4 \\ \hline \end{array} = 500 + \boxed{} + 9$$




$$\begin{array}{r} \\ + 120 \\ + \\ \hline \end{array} = 2156$$

- B. Write a number sentence to show how Irma broke apart 539.

Number sentence: _____

- C. What numbers did Irma multiply in both problems to get 2000?

Use the *Self-Check Questions* and the menu to check your progress and choose practice with using multiplication methods.

Workshop Menu			
	▲ Working On It!	● Getting It!	■ Got It!
Can I Do This?	 I could use some extra help.	 I just need some more practice.	 I'm ready for a challenge.
Show that I understand multiplication methods. Make connections between methods.	Questions 2, 4-6, 9, 12	Questions 2, 4, 6-10, 12	Questions 3, 4, 7-12

2. John solved 487×3 using the all-partials method.

$$\begin{array}{r} 487 \\ \times 3 \\ \hline 21 \\ 240 \\ \hline 1200 \\ 1461 \end{array}$$

A. Complete the same problem using the rectangle method. Fill in the boxes with the correct numbers.

400	<input type="text"/>	7	
3	$3 \times 400 = \text{}$	$3 \times \text{} = 240$	$3 \times \text{} = 21$

1200	
240	
+ <input type="text"/>	
1461	

B. Write a number sentence to show how John broke apart 487.

Number sentence: _____

C. What numbers did he multiply in both problems to get 240?

3. Ana solved 8679×4 using the compact method.

$$\begin{array}{r} 33 \\ 8679 \\ \times 4 \\ \hline 34,716 \end{array}$$

A. Fill in the rectangles for the same problem.

8000	<input type="text"/>	70	9	
4	$4 \times 8000 = \text{}$	$4 \times \text{} = 2400$	$4 \times 70 = \text{}$	$4 \times 9 = 36$

<input type="text"/>	
2400	
+ <input type="text"/>	
36	
+ <input type="text"/>	
34,716	

B. Write a number sentence to show how Ana broke apart 8679.


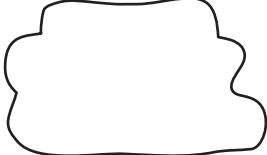
Number sentence: _____

C. What does the little 2 above the 8 in the compact method represent?

D. Where is the same 2 in the rectangle method?



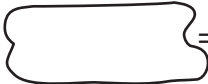
4. Professor Peabody's cat had muddy feet and walked across some problems. Fill in the muddy spots to show the problems correctly.

A. 7×476

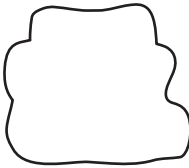
	400	70	6
7	$7 \times 400 = 2800$		

2800	
+	
3332	

B. 2836×5

$2836 =$	
$\times 5$	$\times 5$
$10,000 +$  $+ 150 +$  $= 14,180$	

C. 9×452

452	
$\times 9$	
3600	
	
4068	

For Questions 5–8, fill in the boxes to complete the problems.

5.

$$\begin{array}{r} \square \square \square 54 \\ \times 7 \\ \hline \square \\ + 28 \\ \hline 378 \end{array}$$

6.

$$485 = \square + 80 + \square$$

$$\begin{array}{r} \times 3 \\ \hline \square \\ \times 3 \\ \hline 1200 + \square + 15 = 1455 \end{array}$$

7.

$$\begin{array}{r} \square \bullet \square 694 \\ \times 7 \\ \hline \square \\ \square \\ + 28 \\ \hline \square \end{array}$$

8.

$$\begin{array}{r} \square \bullet \square 9876 \\ \times 2 \\ \hline 12 \\ \square \\ 1600 \\ \square \\ \hline 19,752 \end{array}$$

9. Here is how Grace solved 298×4 .

Show how Grace would solve 298×3 .



$300 \times 4 = 1200$
 298×4 will be
 2×4 or 8 less
 $1200 - 8 = 1192$
 $298 \times 4 = 1192$



10. Jerome knows that 5 is half of 10. Here is how he solved 5×644 .

Show how Jerome would solve 5×486 .



Cut 644 in half to get 322.
 Double 5 to get 10.
 $10 \times 322 = 3220$
 $5 \times 644 = 3220$



11. Here is how Maya solved 252×4 .



252 is like \$2.52
 $4 \times \$2.50$ is \$10.00
 $4 \times 2\text{¢} = 8\text{¢}$
 Add in 8¢ to get \$10.08
 so $252 \times 4 = 1008$

Show how Maya would solve 252×3 .



12. Solve the problems. Solve at least one problem using mental math and at least one using paper and pencil. Show your mental math solutions in the thought bubbles. Show your paper-and-pencil solutions on the note pads with lines.

A. 467×8

B. 299×4

C. 204×5

Using Different Methods






Self-Check: Question 13


Use the *Multiplication Strategies Menu for Larger Numbers* in the **Student Guide** Reference section to help you.

- 13.** Solve 324×8 using three different strategies or methods.

Use the Self-Check Question and the menu to check your progress and choose practice with multiplication strategies and methods.

Workshop Menu			
	▲ Working On It!	● Getting It!	■ Got It!
Can I Do This?	 <p>I could use some extra help.</p>	 <p>I just need some more practice.</p>	 <p>I'm ready for a challenge.</p>
Use different methods to multiply large numbers by 1-digit numbers.	<p>Questions 14–16</p> <p>Use each of these methods at least once:</p> <ul style="list-style-type: none"> • rectangle • all-partials • expanded form 	<p>Questions 14–16</p> <p>Use each of these methods at least once:</p> <ul style="list-style-type: none"> • rectangle • all-partials • expanded form • compact method 	<p>Questions 14–16</p> <p>Use each of these methods at least once:</p> <ul style="list-style-type: none"> • rectangle • all-partials • expanded form • compact method

Name _____ Date _____

 **14.** Choose your own strategies and methods to solve the following problems. Remember to estimate to check that your answers are reasonable.

A. 5×48

B. 4×509

C. 842×9

D. 6×643


E. 3×924

F. 348×8

G. 268×5

H. 7064×7

Name _____ Date _____

 **15.** Choose a problem from the ones you just solved and show how you could solve it using mental math.

 **16.** Choose a different problem and show your estimation strategy. Was your answer reasonable? Why or why not?

Play the Multiplication Digits Game with a partner or family member to practice using place value concepts to multiply.