

**STUDY LINK**  
**5•1**

# Multiplication/Division Puzzles



Solve the multiplication/division puzzles mentally. Fill in the blank boxes.

**Examples:**

*, /	300	2,000
2	600	4,000
3	900	6,000

*, /	80	50
4	320	200
8	640	400

1.

*, /	70	400
8		
9		

2.

*, /	5	7
80		
600		

3.

*, /	9	4
50		
7,000		

4.

*, /		600
7	3,500	
		2,400

5.

*, /		80
30	2,700	
		56,000

6.

*, /	4,000	
	36,000	
20		10,000

Make up and solve some puzzles of your own.

7.

*, /		

8.

*, /		

## Practice

9. \_\_\_\_\_ = 0.56 + 0.92

10. \_\_\_\_\_ = 2.86 - 1.73

11. 19.11 - 10.94 = \_\_\_\_\_

12. \_\_\_\_\_ = 0.52 + 0.25

**STUDY LINK**  
**5•2**
**Extended Multiplication Facts**


Solve mentally.

1.  $6 * 7 =$  \_\_\_\_\_

$6 * 70 =$  \_\_\_\_\_

$60 * 7 =$  \_\_\_\_\_

$60 * 70 =$  \_\_\_\_\_

$600 * 7 =$  \_\_\_\_\_

$60 * 700 =$  \_\_\_\_\_

2.  $9 * 3 =$  \_\_\_\_\_

$9 * 30 =$  \_\_\_\_\_

$90 * 3 =$  \_\_\_\_\_

$90 * 30 =$  \_\_\_\_\_

$900 * 3 =$  \_\_\_\_\_

$90 * 300 =$  \_\_\_\_\_

3.  $4 * 8 =$  \_\_\_\_\_

$4 * 80 =$  \_\_\_\_\_

$40 * 8 =$  \_\_\_\_\_

$40 * 80 =$  \_\_\_\_\_

$400 * 8 =$  \_\_\_\_\_

$40 * 800 =$  \_\_\_\_\_

4.  $5 *$  \_\_\_\_\_  $= 15$

$30 *$  \_\_\_\_\_  $= 150$

$30 *$  \_\_\_\_\_  $= 1,500$

\_\_\_\_\_  $* 50 = 150$

\_\_\_\_\_  $* 500 = 1,500$

$30 *$  \_\_\_\_\_  $= 15,000$

5. 54 is \_\_\_\_\_ times as many as 9.

540 is \_\_\_\_\_ times as many as 90.

5,400 is \_\_\_\_\_ times as many as 90.

540 is 60 times as many as \_\_\_\_\_.

5,400 is 6 times as many as \_\_\_\_\_.

54,000 is 6 times as many as \_\_\_\_\_.

**Practice**

6. \_\_\_\_\_  $= 6.3 + 8.7$

7.  $7.36 + 2.14 =$  \_\_\_\_\_

8. \_\_\_\_\_  $= 9.74 - 5.48$

9. \_\_\_\_\_  $= 4.6 - 2.8$

**STUDY LINK**  
**5.3**

# Estimating Sums



For all problems, write a number model to estimate the sum.

- ◆ If the estimate is greater than or equal to 1,500, find the exact sum.
- ◆ If the estimate is less than 1,500, **do not** solve the problem.

1.  $867 + 734 =$  \_\_\_\_\_

Number model:

\_\_\_\_\_

2.  $374 + 962 + 488 =$  \_\_\_\_\_

Number model:

\_\_\_\_\_

3.  $382 + 744 =$  \_\_\_\_\_

Number model:

\_\_\_\_\_

4.  $581 + 648 + 366 =$  \_\_\_\_\_

Number model:

\_\_\_\_\_

5.  $318 + 295 + 493 =$  \_\_\_\_\_

Number model:

\_\_\_\_\_

6.  $845 + 702 =$  \_\_\_\_\_

Number model:

\_\_\_\_\_

7.  $694 + 210 + 386 =$  \_\_\_\_\_

Number model:

\_\_\_\_\_

8.  $132 + 692 + 803 =$  \_\_\_\_\_

Number model:

\_\_\_\_\_

9.  $756 + 381 + 201 =$  \_\_\_\_\_

Number model:

\_\_\_\_\_

10.  $575 + 832 =$  \_\_\_\_\_

Number model:

\_\_\_\_\_

**Practice**

11.  $60 * 80 =$  \_\_\_\_\_

12.  $30 * 70 =$  \_\_\_\_\_

13.  $50 * 900 =$  \_\_\_\_\_

14.  $40 * 800 =$  \_\_\_\_\_

**STUDY LINK**  
**5•4**

# Estimating Products



Estimate whether the answer will be in the tens, hundreds, thousands, or more. Write a number model to show how you estimated. Then circle the box that shows your estimate.

1. A koala sleeps an average of 22 hours each day. About how many hours does a koala sleep in a year?

Number model: \_\_\_\_\_

10s	100s	1,000s	10,000s	100,000s	1,000,000s
-----	------	--------	---------	----------	------------

2. A prairie vole (a mouselike rodent) has an average of 9 babies per litter. If it has 17 litters in a season, about how many babies are produced?

Number model: \_\_\_\_\_

10s	100s	1,000s	10,000s	100,000s	1,000,000s
-----	------	--------	---------	----------	------------

3. Golfers lose, on average, about 5 golf balls per round of play. About how many golf balls will an average golfer lose playing one round every day for one year?

Number model: \_\_\_\_\_

10s	100s	1,000s	10,000s	100,000s	1,000,000s
-----	------	--------	---------	----------	------------

4. In the next hour, the people in France will save 12,000 trees by recycling paper. About how many trees will they save in two days?

Number model: \_\_\_\_\_

10s	100s	1,000s	10,000s	100,000s	1,000,000s
-----	------	--------	---------	----------	------------

**Try This**

5. How many digits can the product of two 2-digit numbers have? Give examples to support your answer.
- \_\_\_\_\_

**Practice**

6.  $60 * 7 =$  \_\_\_\_\_

7.  $4 * 80 =$  \_\_\_\_\_

8. \_\_\_\_\_ =  $200 * 9$







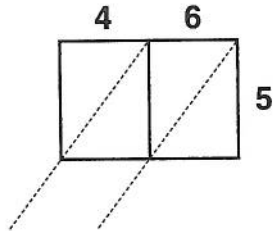
**STUDY LINK**  
**5•7**

# Lattice Multiplication

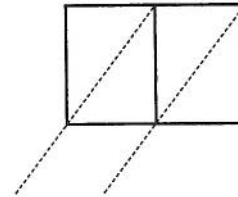


Use the lattice method to find the following products.

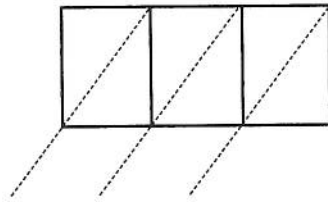
1.  $5 * 46 =$  \_\_\_\_\_



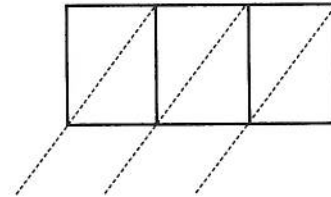
2.  $8 * 67 =$  \_\_\_\_\_



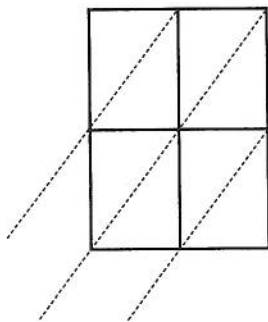
3.  $7 * 836 =$  \_\_\_\_\_



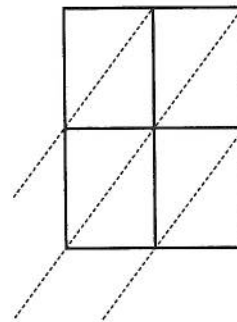
4.  $4 * 329 =$  \_\_\_\_\_



5.  $25 * 31 =$  \_\_\_\_\_



6.  $49 * 52 =$  \_\_\_\_\_



7. Use the lattice method and the partial-products method to find the product.

$84 * 78 =$  \_\_\_\_\_

## Practice

8. \_\_\_\_\_ =  $33.67 + 5.9$

9.  $68.4 + 5.82 =$  \_\_\_\_\_

10.  $71.44 - 37.67 =$  \_\_\_\_\_

11. \_\_\_\_\_ =  $101.06 - 29.91$

**STUDY LINK**  
**5•8**

## Place-Value Puzzle



Use the clues below to fill in the place-value chart.

Billions				Millions				Thousands				Ones		
100B	10B	1B	,	100M	10M	1M	,	100Th	10Th	1Th	,	100	10	1

- Find  $\frac{1}{2}$  of 24. Subtract 4. Write the result in the hundreds place.
- Find  $\frac{1}{2}$  of 30. Divide the result by 3. Write the answer in the ten-thousands place.
- Find  $30 \div 10$ . Double the result. Write it in the one-millions place.
- Divide 12 by 4. Write the answer in the ones place.
- Find  $9 * 8$ . Reverse the digits in the result. Divide by 3. Write the answer in the hundred-thousands place.
- Double 8. Divide the result by 4. Write the answer in the one-thousands place.
- In the one-billions place, write the even number greater than 0 that has not been used yet.
- Write the answer to  $5 \div 5$  in the hundred-millions place.
- In the tens place, write the odd number that has not been used yet.
- Find the sum of all the digits in the chart so far. Divide the result by 5, and write it in the ten-billions place.
- Write 0 in the empty column whose place value is less than billions.
- Write the number in words. For example, 17,450,206 could be written as "17 million, 450 thousand, 206."

### Practice

**13.**  $74 * 5 =$  \_\_\_\_\_

**14.** \_\_\_\_\_ =  $396 * 8$

**15.** \_\_\_\_\_ =  $92 * 18$

**16.**  $56 * 47 =$  \_\_\_\_\_



**STUDY LINK**  
**5•9**

## Many Names for Powers of 10



Below are different names for powers of 10. Write the names in the appropriate name-collection boxes. Circle the names that do not fit in any of the boxes.



1,000,000	10,000	1,000
100	10	10 [100,000s]
10 [10,000s]	$10^6$	10 [1,000s]
$10^3$	$10 * 10 * 10 * 10$	one thousand
$10^5$	$10 * 10 * 10 * 10 * 10$	10 [10s]
$10 * 10$	ten	$10^1$
10 [tenths]	$10^0$	1

1.

100,000

2.

$10^2$

3.

1 million

4.

one

5.

$10 * 10 * 10$

6.

$10^4$

**Practice**

7.  $63 * 7 =$  \_\_\_\_\_

8. \_\_\_\_\_ =  $495 * 6$

9. \_\_\_\_\_ =  $97 * 53$

**STUDY LINK**  
**5•10**

# Rounding



1. Round the seating capacities in the table below to the nearest thousand.

Women's National Basketball Association Seating Capacity of Home Courts		
Team	Seating Capacity	Rounded to the Nearest 1,000
Charlotte Sting	24,042	
Cleveland Rockers	20,562	
Detroit Shock	22,076	
New York Liberty	19,763	
Phoenix Mercury	19,023	
Sacramento Monarchs	17,317	
San Antonio Stars	18,500	
Seattle Storm	17,072	

2. Look at your rounded numbers. Which stadiums have about the same capacity?
- \_\_\_\_\_

3. Round the population figures in the table below to the nearest million.

U.S. Population by Official Census from 1940 to 2000		
Year	Population	Rounded to the Nearest Million
1940	132,164,569	
1960	179,323,175	
1980	226,542,203	
2000	281,421,906	

Source for both tables: *The World Almanac and Book of Facts 2004*

## Practice

4. \_\_\_\_\_ =  $692 * 6$       5. \_\_\_\_\_ =  $38 * 21$       6.  $44 * 73 =$  \_\_\_\_\_

**STUDY LINK**  
**5•11****Comparing Data**

This table shows the number of pounds of fruit produced by the top 10 fruit-producing countries in 2001. Read each of these numbers to a friend or a family member.

Country	Pounds of Fruit
Brazil	77,268,294,000
China	167,046,420,000
France	26,823,740,000
India	118,036,194,000
Iran	28,599,912,000
Italy	44,410,538,000
Mexico	34,549,912,000
Philippines	27,028,556,000
Spain	36,260,392,000
United States	73,148,598,000

1. Which country produced the most fruit?
- \_\_\_\_\_

2. Which country produced the least fruit?
- \_\_\_\_\_

3. For each pair, circle the country that produced more fruit.

a. India      Mexico

b. United States      Iran

c. Brazil      Philippines

d. Spain      Italy

4. Which two countries together produced about as much fruit as India?
- \_\_\_\_\_

**Practice**

Estimate the sum. Write a number model.

5.  $687 + 935$  \_\_\_\_\_

6.  $2,409 + 1,196 + 1,327$  \_\_\_\_\_

7.  $11,899 + 35,201$  \_\_\_\_\_