

Multiplication Puzzles

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



Examples:

*	300	2,000
2	<i>600</i>	<i>4,000</i>
3	<i>900</i>	<i>6,000</i>

*	<i>80</i>	50
4	320	<i>200</i>
<i>8</i>	<i>640</i>	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

*		8
30	270	
		5,600

⑥

*	400	
	3,600	
20		10,000

Make up and solve some puzzles of your own.

⑦

*		

⑧

*		

Practice

Solve using U.S. traditional addition or subtraction.

⑨ $321 + 869 =$ _____

⑩ $5,401 - 752 =$ _____

⑪ $4,568 + 8,735 =$ _____

⑫ $9,156 - 4,584 =$ _____

Finding Estimates and Evaluating Answers

Home Link 4-2

NAME _____

DATE _____

TIME _____

Write an estimate and show your thinking. Solve using a calculator. Check to see that your answer is reasonable.



- ① Alice sleeps an average of 9 hours per night. A cat can sleep up to 20 hours per day. About how many more hours does a cat sleep in 1 month than Alice?

Estimate: _____

Answer: About _____ more hours per month

Is your answer reasonable? _____ How do you know? _____

- ② Koalas sleep about 22 hours a day. Pandas sleep about 10 hours a day. About how many more hours does a typical koala sleep in 1 year than a typical panda?

Estimate: _____

Answer: About _____ more hours per year

Is your answer reasonable? _____ How do you know? _____

- ③ There are 30 Major League Baseball (MLB) teams and 32 National Football League (NFL) teams. The expanded roster for MLB teams is 40 players and it is 53 for NFL teams. How many more players are in the NFL than in the MLB?

Estimate: _____

Answer: _____ more players

Is your answer reasonable? _____ How do you know? _____

Practice

Round to the nearest thousand.

Round to the nearest ten-thousand.

④ 45,493 _____

⑤ 1,409,836 _____

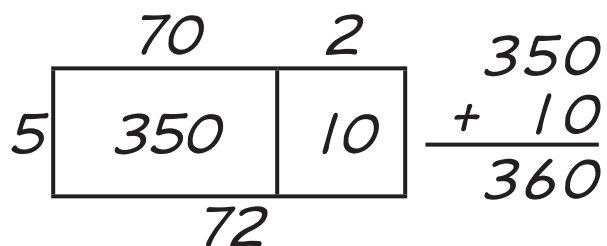
Partitioning Rectangles

Solve the multiplication problems by partitioning a rectangle. Then add each part of the rectangle to get the product.



Example: $5 * 72 = \underline{360}$

① $4 * 35 = \underline{\hspace{2cm}}$



② $6 * 83 = \underline{\hspace{2cm}}$

③ $9 * 49 = \underline{\hspace{2cm}}$

Practice

Solve using U.S. traditional addition or subtraction.

④ $9,289 + 1,476 = \underline{\hspace{2cm}}$

⑤ $6,503 - 3,547 = \underline{\hspace{2cm}}$

⑥ $5,619 + 5,999 = \underline{\hspace{2cm}}$

⑦ $5,005 - 2,446 = \underline{\hspace{2cm}}$

Converting Liquid Measures



Complete the table.

①

Liters (L)	Milliliters (mL)
8	
15	
20	
25	

- ② Mrs. Wong's students kept track of how much water they used to water the classroom plants. The first week they used 24 liters, and the second week they used 17 liters. How many more milliliters did they use the first week than the second?

Answer: _____ mL

- ③ My fish tank holds 64 liters of water. My neighbor's tank holds 58 liters of water. How many milliliters is that combined?

Answer: _____ mL

- ④ Mrs. Reyes filled her kiddie pool with 83 liters of water. Her children added 2,000 mL of water to the pool. How many liters of water are in the pool now?

Answer: _____ L

Practice

Solve using U.S. traditional addition or subtraction.

⑤ $4,638 + 9,807 =$ _____

⑥ $7,322 - 3,741 =$ _____

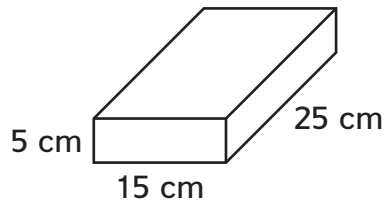
⑦ $55,812 + 6,529 =$ _____

⑧ $98,001 - 7,443 =$ _____

Using Multiplication



Ms. Patel wants to keep her classroom calculators in a box that is 25 centimeters long, 15 centimeters wide, and 5 centimeters tall. The calculators measure 12 centimeters long, 7 centimeters wide, and 1 centimeter tall. How many calculators can Ms. Patel fit in the box?



① Solve this problem. Show or explain how you solved the problem.

② Show or explain how you know your answer makes sense.

Practice

Sketch a rectangle or use partial products to solve.

③ $27 * 4 =$ _____

④ $48 * 9 =$ _____

⑤ $43 * 3 =$ _____

⑥ $81 * 5 =$ _____

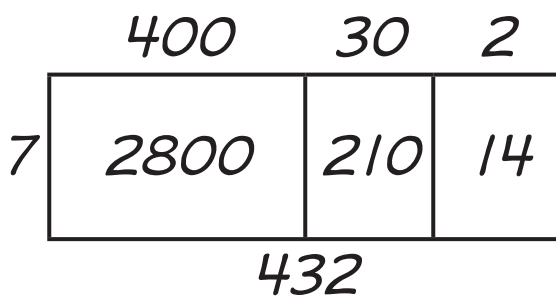
Multiplying in Parts

In the example, a rectangle was drawn to represent the problem. Then partial-products multiplication was used to record the work in a simpler way. Use partial-products multiplication to solve Problems 1 and 2.



Example:

Partitioned Rectangle



Partial-Products Multiplication

$$\begin{array}{r}
 432 \\
 * 7 \\
 \hline
 2800 \\
 210 \\
 + 14 \\
 \hline
 3,024
 \end{array}$$

①

$$\begin{array}{r}
 48 \\
 * 3 \\
 \hline
 \end{array}$$

②

$$\begin{array}{r}
 653 \\
 * 8 \\
 \hline
 \end{array}$$

Practice

Write the numbers in expanded form.

③ 905,603 _____

④ 589,043 _____

⑤ 2,599,002 _____

⑥ 8,003,952 _____

Using a Measurement Scale

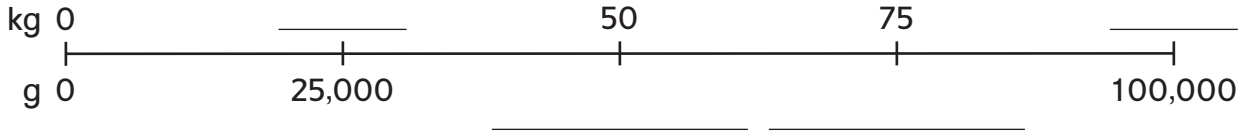
Home Link 4-7

NAME _____

DATE _____

TIME _____

- ① Fill in the blanks on the measurement scale.



Complete the two-column tables.

②

Kilograms (kg)	Grams (g)
6	
14	
	27,000
101	

③

Kilograms (kg)	Grams (g)
237	
98	
	485,000
920	

- ④ Find three items in your home that have the mass listed in grams or kilograms. Be sure to tell whether the mass is kilograms or grams.

Item	Mass in Kilograms (kg) or Grams (g)

- ⑤ Among other foods, a giraffe in a zoo eats 4 kg of plant pellets and 5 kg of hay each day. How many grams of these foods does a giraffe eat in one week?

Answer: _____ grams

Practice

⑥ $52 * 7 =$ _____

⑦ $99 * 4 =$ _____

⑧ $61 * 8 =$ _____

⑨ $49 * 6 =$ _____

Money Number Stories

Family Note Today your child solved multistep number stories involving multiplication, addition, and subtraction of money amounts. Have your child explain a plan for solving each of the following problems and then solve it.

Mr. Russo is buying equipment for his baseball team. Use the table to the right to answer questions about his purchases.



- ① Mr. Russo needs 9 helmets and 8 gloves. How much will they cost in all?

Answer: \$_____

Item	Price
Wooden bat	\$49
Metal bat	\$74
Glove	\$35
Helmet	\$22

- ② Mr. Russo wants to buy 6 bats for his team. How much more would it cost for him to buy 6 metal bats than 6 wooden bats?

Answer: \$_____

- ③ Mr. Russo buys 5 wooden bats and gives the cashier \$300. How much change does he get?

Answer: \$_____

- ④ If the cashier only has \$10 and \$1 bills, what are two ways he could make Mr. Russo's change?

Answer: _____

Practice

List the factors for the following numbers:

⑤ 21 _____

⑥ 40 _____

⑦ 36 _____

⑧ 45 _____

Practicing Partial-Products Multiplication

Home Link 4-9

NAME _____

DATE _____

TIME _____

Solve using partial-products multiplication.



① $46 * 38 =$ _____

②
$$\begin{array}{r} 65 \\ * 32 \\ \hline \end{array}$$

- ③ Donnie and Raj went apple picking at an orchard that had 65 rows of trees. Each row had 22 trees in it. How many trees were in the orchard?

Number model with unknown: _____

Answer: _____ trees

- ④ A new apartment building has 33 floors, with 24 apartments on each floor. How many apartments are in the building?

Number model with unknown: _____

Answer: _____ apartments

Practice

⑤ $37 * 5 =$ _____

⑥ $27 * 6 =$ _____

⑦ $332 * 6 =$ _____

⑧ $2,958 * 7 =$ _____

Extended Multiplication Facts

Home Link 4-10

NAME _____

DATE _____

TIME _____



Solve mentally.

① $6 * 7 =$ _____

$6 * 70 =$ _____

$60 * 7 =$ _____

$60 * 70 =$ _____

$600 * 7 =$ _____

$60 * 700 =$ _____

② $5 * 6 =$ _____

$5 * 60 =$ _____

$50 * 6 =$ _____

$50 * 60 =$ _____

$500 * 6 =$ _____

$50 * 600 =$ _____

③ $4 * 8 =$ _____

$4 * 80 =$ _____

$40 * 8 =$ _____

$40 * 80 =$ _____

$400 * 8 =$ _____

$40 * 800 =$ _____

④ $5 * \text{_____} = 15$

$30 * \text{_____} = 150$

$30 * \text{_____} = 1,500$

$\text{_____} * 50 = 150$

$\text{_____} * 500 = 1,500$

$30 * \text{_____} = 15,000$

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

Solve using U.S. traditional addition or subtraction.

⑥ $6,419 + 7,809 =$ _____

⑦ $8,045 - 5,906 =$ _____

⑧ $76,543 + 84,086 =$ _____

⑨ $65,409 - 32,777 =$ _____

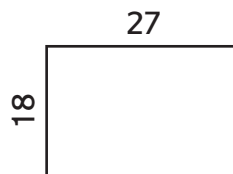
Finding the Area



① Find the area.

Equation: _____

Answer: _____ square units

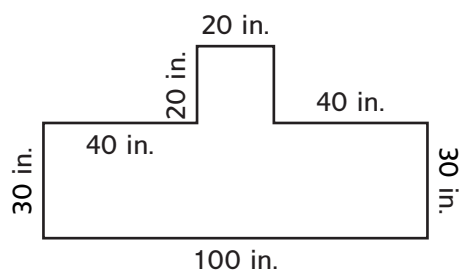


② A tool bench is 35 inches long and 19 inches wide.
How many square inches of the basement floor does it cover?

Equation: _____

Answer: _____ square inches

③ Find the area.



Equations: _____

Answer: _____ square inches

Practice

List all of the factors for the numbers below.

④ 48 _____

⑤ 62 _____

⑥ 63 _____

⑦ 55 _____

Multistep Multiplication Number Stories

Home Link 4-12

NAME _____

DATE _____

TIME _____

Write estimates and number models for each problem. Then solve.



- ① Rosalie is collecting stickers for a scrapbook. She collected 8 stickers per day for 2 weeks and then collected 5 stickers per day for 2 weeks. How many stickers has Rosalie collected?

Estimate: _____

Number models with unknowns:

Answer: _____ stickers

- ② Rashaad's sister gives him 2 packs of baseball cards per month. Each pack has 11 cards. She gives him 3 extra packs for his birthday. How many cards does Rashaad get in a year?

Estimate: _____

Number models with unknowns:

Answer: _____ cards

Does your answer make sense? Explain. _____

Practice

Name all the factor pairs.

③ 50 _____

④ 72 _____

⑤ 85 _____

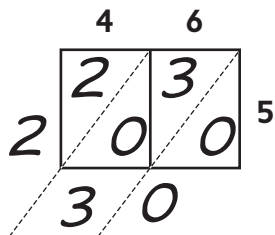
⑥ 90 _____

Lattice Multiplication

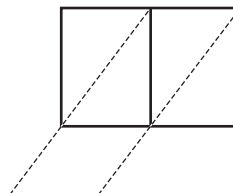
Use the lattice method to find the products.



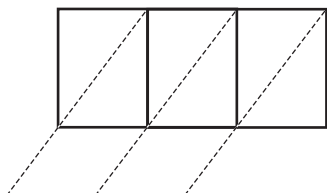
Example $5 * 46 = \underline{230}$



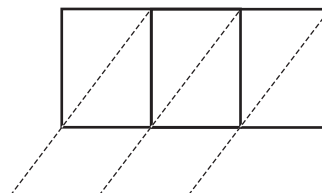
① $8 * 67 = \underline{\hspace{2cm}}$



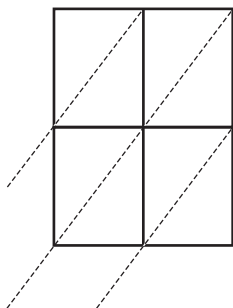
② $7 * 836 = \underline{\hspace{2cm}}$



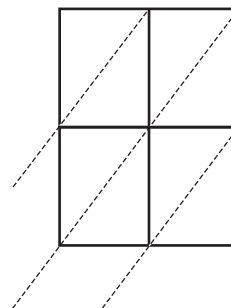
③ $6 * 531 = \underline{\hspace{2cm}}$



④ $44 * 58 = \underline{\hspace{2cm}}$



⑤ $84 * 78 = \underline{\hspace{2cm}}$



Practice

⑥ $77 * 8 = \underline{\hspace{2cm}}$

⑦ $49 * 2 = \underline{\hspace{2cm}}$

⑧ $89 * 4 = \underline{\hspace{2cm}}$

⑨ $183 * 5 = \underline{\hspace{2cm}}$