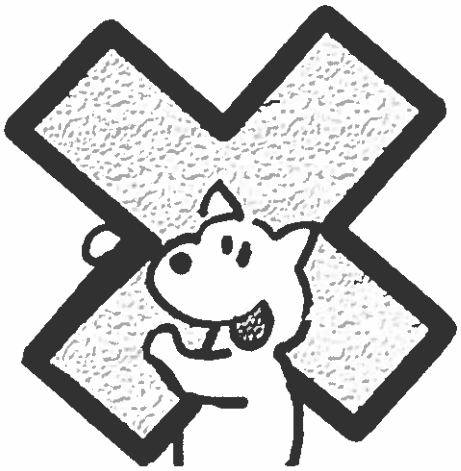
Unit 4

Homelink Packet



Multiplication Puzzles

Home Link 4-1

NAME DATE TIME

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

SRB 102

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

*		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 =

List the all the factors of each number.

18: _____

24: _____

27: _____

40: _____

36: _____

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.

SRB 82–89

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.

4. 45,493

Round to the nearest ten-thousand.

5. 1,409,836

3000 − 939	214 − 187	913 − 886	3011 − 2990
800 − 27	3011 − 2990	8013 − 7989	320 − 284

Partitioning Rectangles

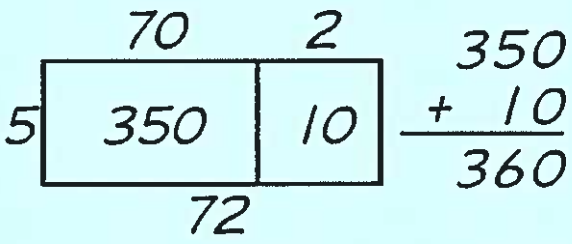
Home Link 4-3

NAME DATE TIME

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

SRB 103 104

Example: 5 * 72 = 360



① 4 * 35 = _____

② 6 * 83 = _____

③ 9 * 49 = _____

Practice

Solve using U.S. traditional addition or subtraction.

④ 9,289 + 1,476 = _____

⑤ 6,503 − 3,547 = _____

⑥ 5,619 + 5,999 = _____

⑦ 5,005 − 2,446 = _____

Rule: Multiply 6

In	Out
4	
8	
	42
	54

Rule: Divide 4

In	Out
20	
	8
	3
36	

Rule: _____

In	Out
7	
3	21
	35
6	42

Converting Liquid Measures

Home Link 4-4

NAME DATE TIME

SRB

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 =

$6\overline{)24}$	$3\overline{)9}$	$2\overline{)20}$	$3\overline{)15}$	$6\overline{)48}$	$8\overline{)40}$	$7\overline{)49}$	$8\overline{)80}$
$6\overline{)12}$	$5\overline{)30}$	$8\overline{)56}$	$4\overline{)32}$	$4\overline{)24}$	$8\overline{)32}$	$8\overline{)16}$	$7\overline{)35}$
$9\overline{)18}$	$4\overline{)12}$	$10\overline{)50}$	$9\overline{)27}$	$7\overline{)56}$	$2\overline{)14}$	$4\overline{)8}$	$10\overline{)30}$
$6\overline{)54}$	$3\overline{)21}$	$9\overline{)81}$	$5\overline{)25}$	$6\overline{)30}$	$8\overline{)48}$	$7\overline{)14}$	$10\overline{)100}$
$2\overline{)16}$	$5\overline{)35}$	$4\overline{)16}$	$10\overline{)40}$	$7\overline{)42}$	$10\overline{)60}$	$3\overline{)18}$	$6\overline{)18}$

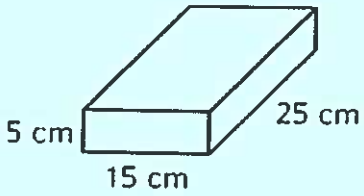
Using Multiplication

Home Link 4-5

NAME DATE TIME

SRB 103 105

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 $81 * 5 =$

3 × 8	7 × 6	5 × 9	6 × 5	6 × 9	5 × 7	9 × 3	9 × 6
8 × 9	5 × 8	8 × 5	7 × 4	8 × 4	7 × 8	3 × 4	6 × 3
6 × 9	6 × 6	3 × 3	6 × 8	3 × 8	5 × 4	8 × 3	9 × 7
7 × 3	7 × 6	8 × 6	5 × 6	8 × 9	7 × 4	3 × 7	8 × 3
6 × 7	4 × 8	6 × 5	9 × 4	4 × 7	3 × 7	4 × 5	8 × 5

Multiplying in Parts

Home Link 4-6

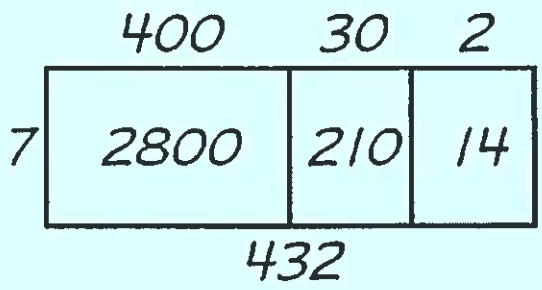
NAME DATE TIME

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.

SRB 103 104 106

Example:

Partitioned Rectangle



Partial-Products Multiplication

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

① $\begin{array}{r} 48 \\ \times \quad 3 \\ \hline \end{array}$

② $\begin{array}{r} 653 \\ \times \quad 8 \\ \hline \end{array}$

Practice

Write the numbers in expanded form.

③ 905.603

④ 589.043

⑤ 2,599,002

⑥ 8,003.952

Solve each story problem. Show your work.

David plans to read 8 books in each week of his vacation. His vacation is 4 weeks long. How many books should he bring with him?

Answer: _____ _____
(units)

Anthony can complete 40 math problems in 5 minutes. There are 32 problems on each page. How many problems could he complete in one minute?

Answer: _____ _____
(units)

Hannah's term paper is 28 pages long. The laser printer can print 4 pages per minute. How long will it take the printer to finish printing her paper?

Answer: _____ _____
(units)

Using a Measurement Scale

Home Link 4-7

NAME DATE TIME

SRB 168 169

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 $49 * 6 =$

12 − 7	14 − 6	10 − 4	17 − 8	15 − 8	9 − 4	17 − 8	14 − 8
13 − 8	16 − 9	15 − 6	13 − 6	14 − 9	13 − 7	11 − 6	16 − 9
17 − 9	9 − 4	13 − 5	13 − 7	15 − 9	9 − 5	12 − 5	15 − 7
9 − 5	12 − 4	10 − 6	13 − 4	12 − 7	16 − 7	12 − 8	15 − 8
11 − 7	12 − 6	13 − 6	11 − 5	13 − 8	11 − 4	10 − 6	15 − 6
12 − 5	14 − 7	13 − 9	12 − 4	11 − 4	14 − 5	13 − 4	14 − 9

Money Number Stories

Home Link 4-8

NAME DATE TIME

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.

SRB 26

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

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

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

Answer: $_____

(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

$9\overline{)54}$	$10\overline{)90}$	$9\overline{)81}$	$10\overline{)20}$	$7\overline{)63}$	$2\overline{)12}$	$4\overline{)16}$	$5\overline{)50}$
$4\overline{)12}$	$6\overline{)48}$	$5\overline{)10}$	$4\overline{)28}$	$8\overline{)80}$	$5\overline{)45}$	$6\overline{)36}$	$8\overline{)40}$
$9\overline{)27}$	$10\overline{)50}$	$4\overline{)24}$	$5\overline{)15}$	$7\overline{)35}$	$7\overline{)42}$	$3\overline{)18}$	$9\overline{)63}$
$10\overline{)70}$	$7\overline{)28}$	$6\overline{)60}$	$4\overline{)32}$	$8\overline{)72}$	$6\overline{)42}$	$7\overline{)21}$	$8\overline{)32}$
$3\overline{)12}$	$6\overline{)12}$	$2\overline{)14}$	$2\overline{)6}$	$3\overline{)24}$	$6\overline{)30}$	$6\overline{)18}$	$2\overline{)4}$

Practicing Partial-Products Multiplication

Home Link 4-9

NAME DATE TIME

SRB 100 107

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 = _____

Continue each pattern. Then describe the pattern.

30, 28, 26, 24, 22, 20, 18, 16, 14, _____, _____, _____

Pattern:

34, 39, 44, 49, 54, 59, 64, 69, 74, _____, _____, _____

Pattern:

2, 4, 8, 16, 32, 64, 128, 256, 512, _____, _____, _____

Pattern:

2048, 1024, 512, 256, 128, 64, 32, 16, 8, _____, _____, _____

Pattern:

Extended Multiplication Facts

Home Link 4-10

NAME DATE TIME

SRB 96-97, 102

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 * = 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

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 =

Write the fact that answers each question. The first one has been done for you.

1. Michael has 3 times as many clovers as Danielle. Danielle has 12 clovers. How many clovers does Michael have?

   3 * 12 = 36 clovers

2. Justin has 5 times as many baseball cards as David. David has 6 cards. How many baseball cards does Justin have?

   _____

3. Olivia has 18 pairs of shoes which is twice as many as Maddie. How many pairs does Maddie have?

   _____

4. Brad has 21 rocks in his collection which is 3 times as many as Henry. How many rocks does Henry have?

   _____

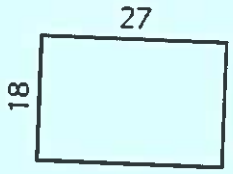
Finding the Area

Home Link 4-11

NAME DATE TIME

SRB 104 107, 204 206

① Find the area.



Equation:

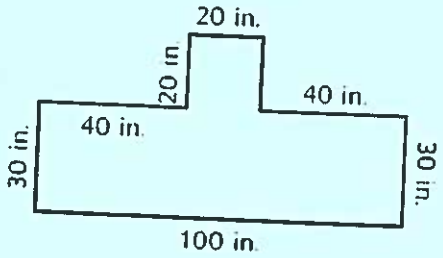
Answer: square units

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

Which number sentence best answers each question? Circle your answer.

The girls have swim practice every Monday from 8:00 - 9:00pm. During swim practice, each girl must swim 8 laps. If 6 girls swim at practice, how many laps would the girls swim in all?

$8 - 6 = y$

$8 * 6 = y$

$9 + 8 = y$

Mrs. Hess purchases bookmarkers for the students to use when they check out books. The bookmarkers come in packs of 12 and cost $5 for each pack. If she purchases 96 bookmarkers, how much money does she spend?

$(96 \div 12) * 5 = p$

$96 * (12 + 5) = p$

$96 - (12 * 5) = p$

The fourth graders will be playing a game tomorrow afternoon. In order to play, three equal teams are needed. If each of the five classes have 24 students, how many students would be on each team?

$(24 + 5) \div 3 = w$

$(24 * 5) \div 3 = w$

$(3 * 24) \div 5 = w$

Jaclyn has two bags of apples. In one there are 43 apples. If she has a total of 90 apples, how many apples are in the other bag?

$43 + b = 90$

$43 - 90 = b$

$90 + 43 = b$

Multistep Multiplication Number Stories

Home Link 4-12

NAME DATE TIME

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

SRB 26, 36-37

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

$300 \times 200 =$	$400 \times 90 =$
$70 \times 70 =$	$400 \times 400 =$
$2{,}000 \times 80 =$	$2{,}000 \times 30 =$
$60 \times 5{,}000 =$	$30 \times 300 =$
$20 \times 7{,}000 =$	$30 \times 9{,}000 =$
$6{,}000 \times 60 =$	$4{,}000 \times 50 =$
$800 \times 700 =$	$300 \times 50 =$
$200 \times 900 =$	$400 \times 800 =$
$500 \times 500 =$	$7{,}000 \times 30 =$
$40 \times 4{,}000 =$	$500 \times 30 =$

Lattice Multiplication

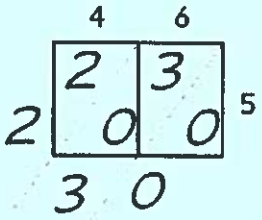
Home Link 4-13

NAME DATE TIME

Use the lattice method to find the products.

SRB 108

Example $5 * 46 = 230$



① $8 * 67 =$

② $7 * 836 =$ _____

③ $6 * 531 =$ _____

④ $44 * 58 =$

⑤ $84 * 78 =$

Practice

⑥ $77 * 8 =$

⑦ $49 * 2 =$

⑧ $89 * 4 =$

⑨ $183 * 5 =$

$9\overline{)45}$	$10\overline{)70}$	$2\overline{)12}$	$6\overline{)60}$	$8\overline{)48}$	$8\overline{)56}$	$9\overline{)36}$	$4\overline{)20}$
$8\overline{)16}$	$2\overline{)16}$	$10\overline{)100}$	$9\overline{)72}$	$8\overline{)64}$	$9\overline{)90}$	$4\overline{)28}$	$3\overline{)15}$
$2\overline{)8}$	$3\overline{)12}$	$2\overline{)10}$	$9\overline{)81}$	$5\overline{)25}$	$3\overline{)30}$	$10\overline{)60}$	$10\overline{)50}$
$4\overline{)12}$	$7\overline{)35}$	$3\overline{)9}$	$10\overline{)20}$	$7\overline{)56}$	$9\overline{)27}$	$5\overline{)40}$	$6\overline{)24}$
$5\overline{)50}$	$8\overline{)24}$	$8\overline{)80}$	$4\overline{)24}$	$6\overline{)48}$	$4\overline{)36}$	$8\overline{)32}$	$5\overline{)45}$