NAME _____ **DATE** _____

Home Connection 1 ★ Worksheet

NOTE TO FAMILIES

Students have been exploring these shapes in class. Your child may be able to draw on those experiences to complete the table below. Your child may also want to cut out the shapes on page 3 and use them to discover relationships between the shapes.

Shape Connections

1 In the top row (going across) write the name of each shape. Here is a list of names to help you with the spelling:

hexagon rhombus trapezoid triangle

2 Use the empty boxes to describe mathematical relationships between the shapes. Try to describe a different relationship in each box. Two examples have been done for you.

SHAPE CONNECTIONS	_____	_____	_____	_____
		2 of these triangles will fit inside this rhombus.		
	This rhombus is twice as large as this triangle.			

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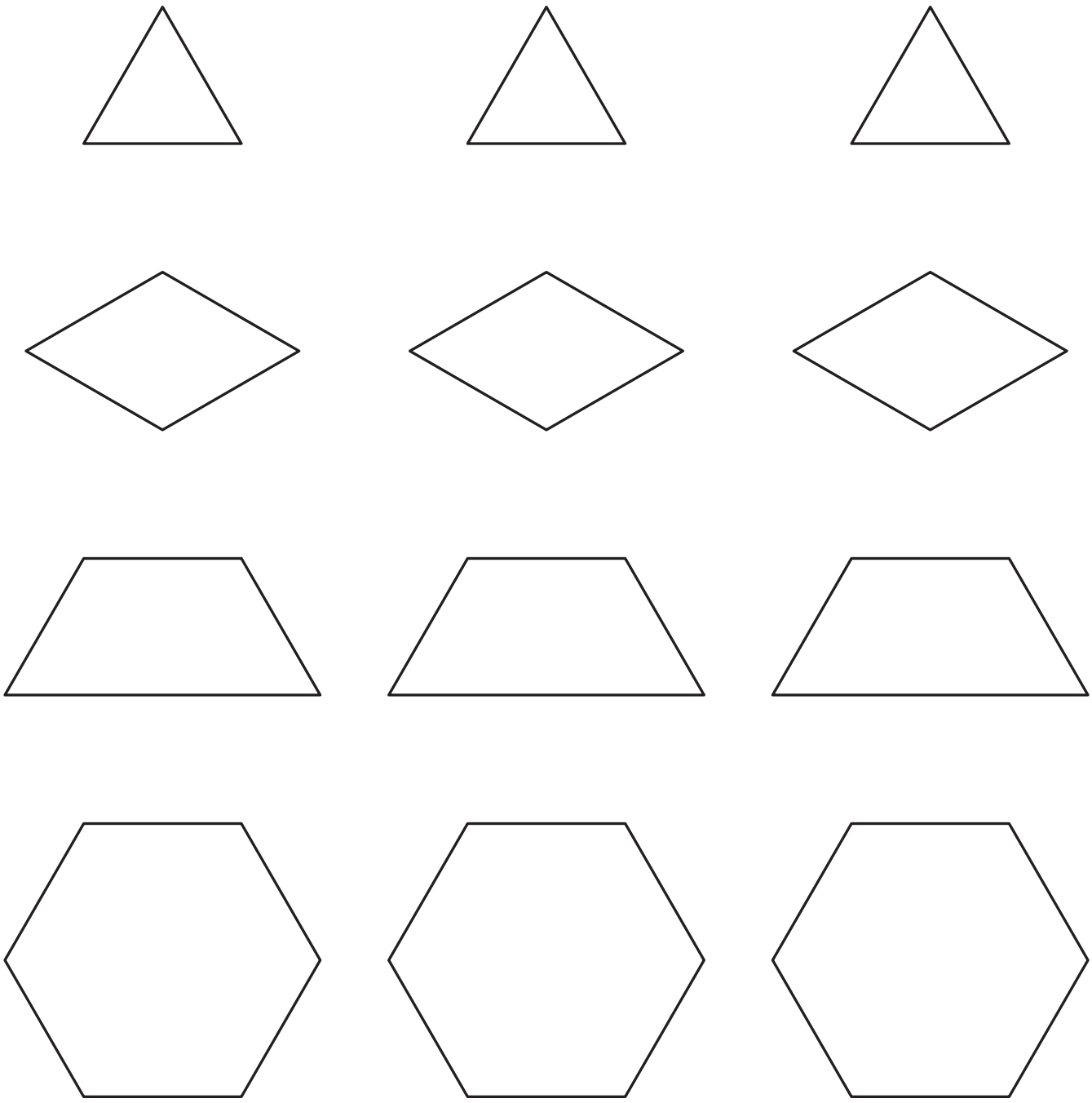
Home Connection 1 Worksheet (cont.)

Pattern Block Shapes

You can cut out the shapes below and use them to find relationships. You don't have to use them unless you need them, and you can cut out only as many as you need.



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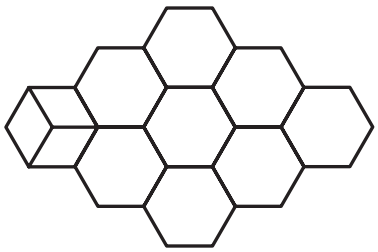
Home Connection 2 ★ Worksheet

Measuring with the Blue Rhombus



1 How many rhombuses would fit on these hexagons altogether? _____

2 If 3 rhombuses fit on each hexagon, how many rhombuses would fit on each group of hexagons below?

a _____

b _____

c _____

d _____

CHALLENGE

3 How many rhombuses would fit on this many hexagons?

a _____

b 20 _____ **c** 30 _____ **d** 15 _____

e How did you figure out parts b, c, and d?

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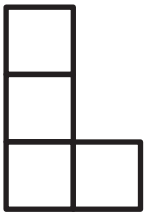
Home Connection 3 ★ Activity

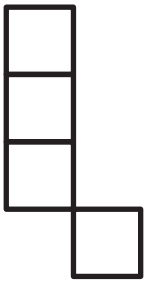
NOTE TO FAMILIES

The activity below gives students a chance to explore spatial relationships and problem solve.

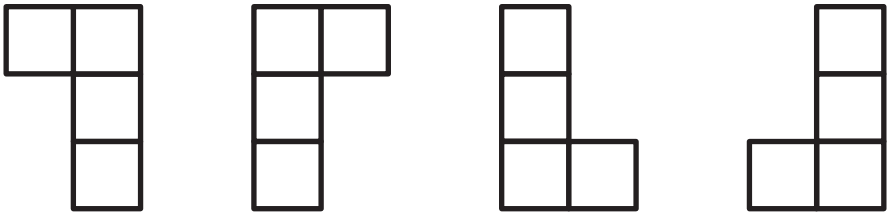
Tetragrams

Tetra means 4. In this activity, a tetragram is a shape formed by arranging 4 squares, so that each square shares at least one full side with its neighbor.

Like this 

Not like this 

Sometimes shapes that look different are really the same shape, flipped or turned into a different position. For example, the shapes below are all the same.



1 Cut out the squares on the back of this page and use them to make as many tetragrams as you can.

2 Each time you find a different tetragram, record the arrangement on the grid on the back of this page. Bring the whole piece of grid paper back to school, without cutting out the shapes you make.

(Continued on back.)

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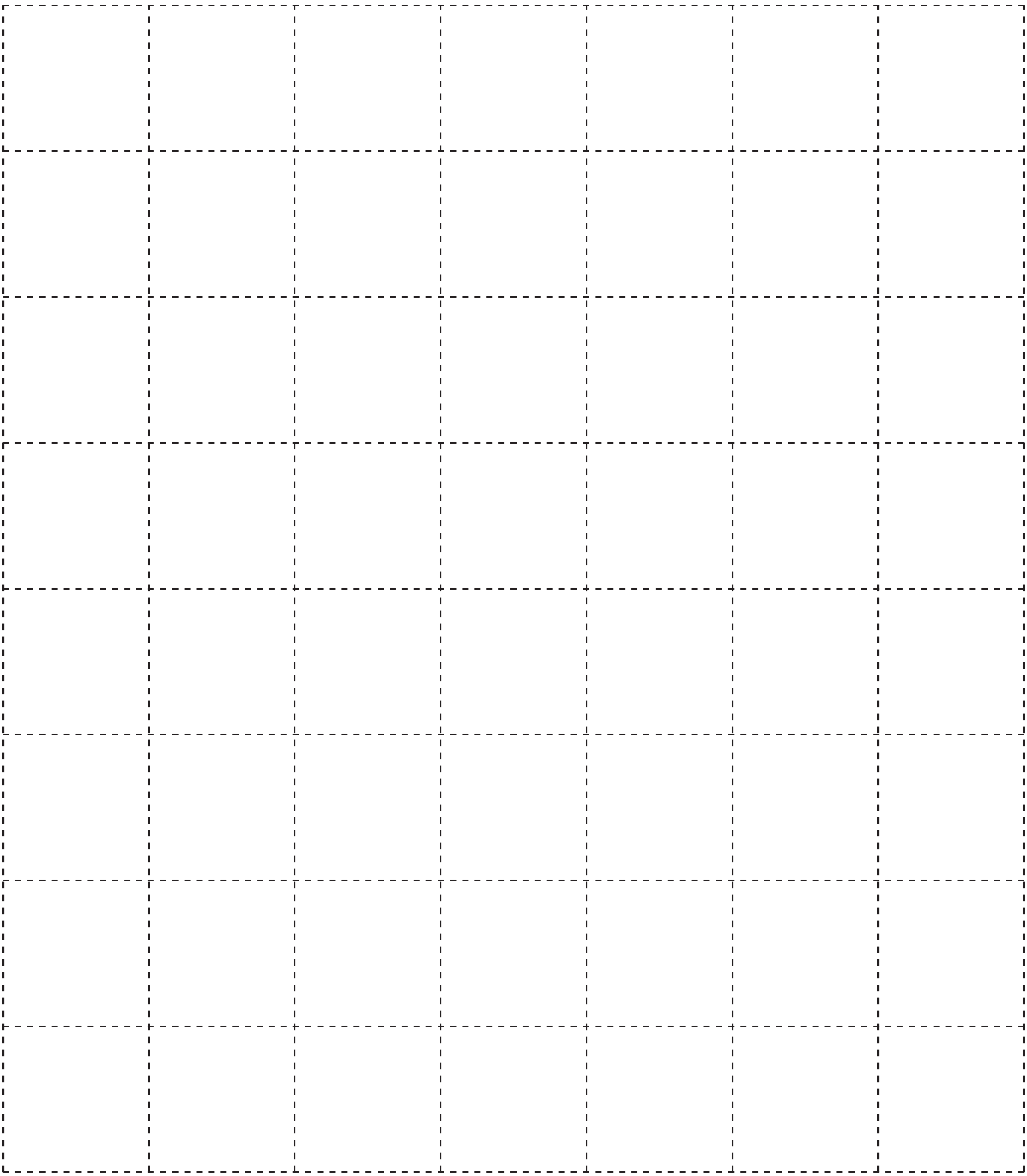
Home Connection 3 Activity (cont.)



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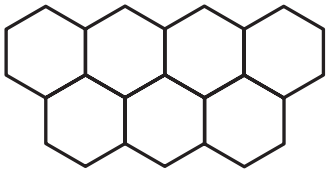
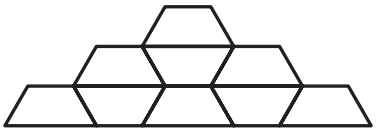
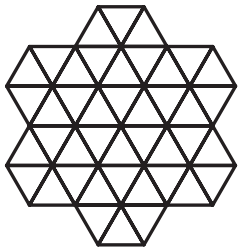
Home Connection 3 ★ Worksheet

NOTE TO FAMILIES

This sheet provides practice finding the area of figures using units other than squares, which students have been doing in class.

Pattern Block Areas

Calculate the area of each shape in the unit of measure shown.

Shape	Hexagon Units	Trapezoid Units	Triangle Units
1 	_____	_____	_____
2 	_____	_____	_____
3 	_____	_____	_____

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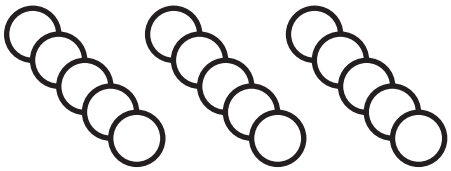
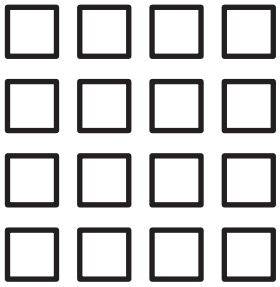
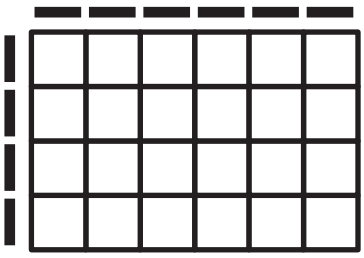
Home Connection 4 ★ Worksheet

Models for Multiplication

Write a story situation to go with each multiplication model.

Multiplication Model	Story
example 2 × 3 = 6	Keith's dog Spot ate 2 cans of dog food every day for 3 days in a row. Spot ate 6 cans of dog food in 3 days.
1  3 × 5 = 15	
2  4 × 4 = 16	
3  4 × 6 = 24	

(Continued on back.)

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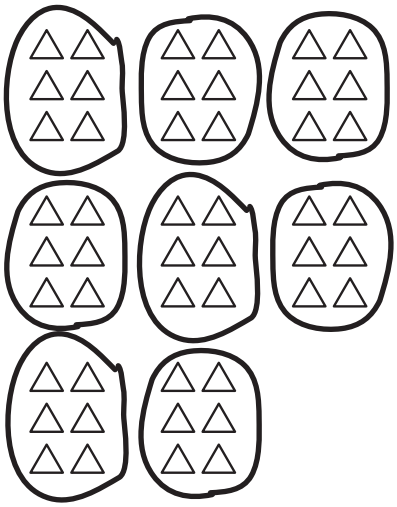
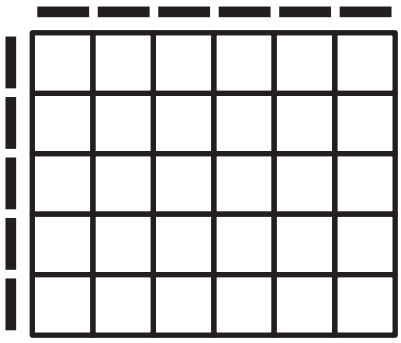
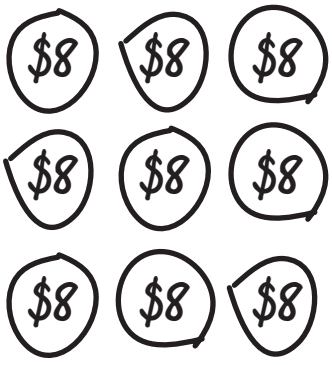
Home Connection 4 Worksheet (cont.)

Multiplication Model	Story
4  8 × ____ = 48	
5  ____ × ____ = 30	
6  ____ x 9 = 72	

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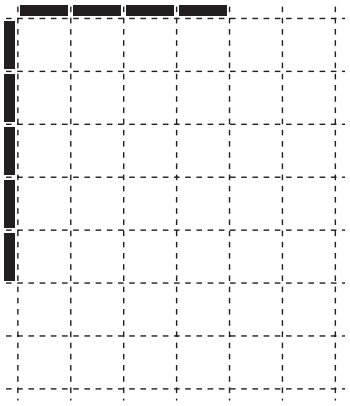
Home Connection 5 ★ Worksheet

The Rectangular Area Model

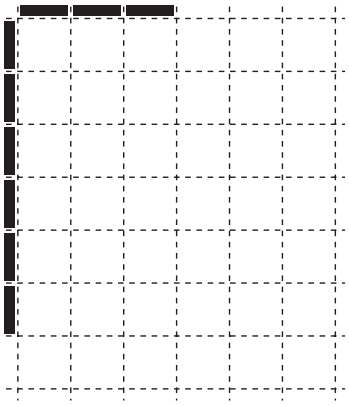
For each problem on this page, color in the array and finish writing the equation.

1



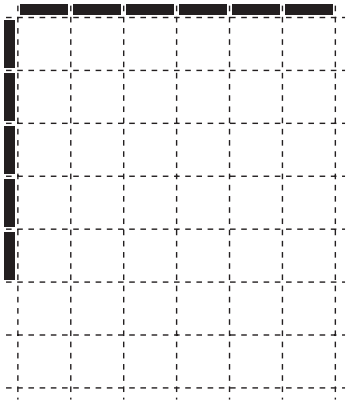
5 × 4 = 20

2



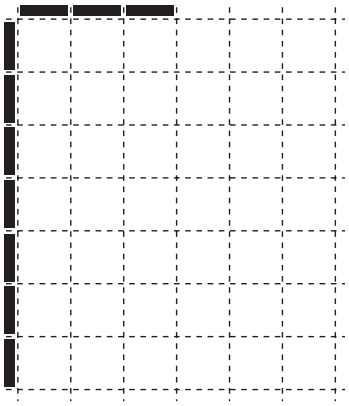
6 × _____ = 18

3



_____ × _____ = 30

4



_____ × _____ = _____

5 Copy one equation from above and write a story problem to go with it.

example I bought 5 packs of pencils. Each pack had 4 pencils in it. How many pencils did I get? (5 × 4 = 20)

(Continued on back.)

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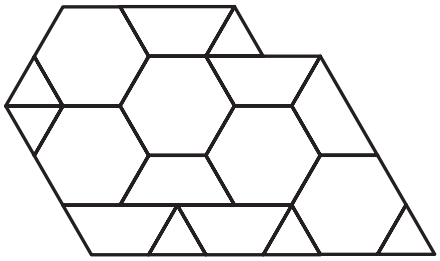
Home Connection 5 Worksheet (cont.)

CHALLENGE

Area Conversions



1 How many of each shape do you see in the figure above?

a ⬡ _____ **b** ⏢ _____ **c** △ _____

2 What would the total area of the figure be

a ⬡ _____ in hexagon units?

b ⏢ _____ in trapezoid units?

c △ _____ in triangle units?

Please show your work here.

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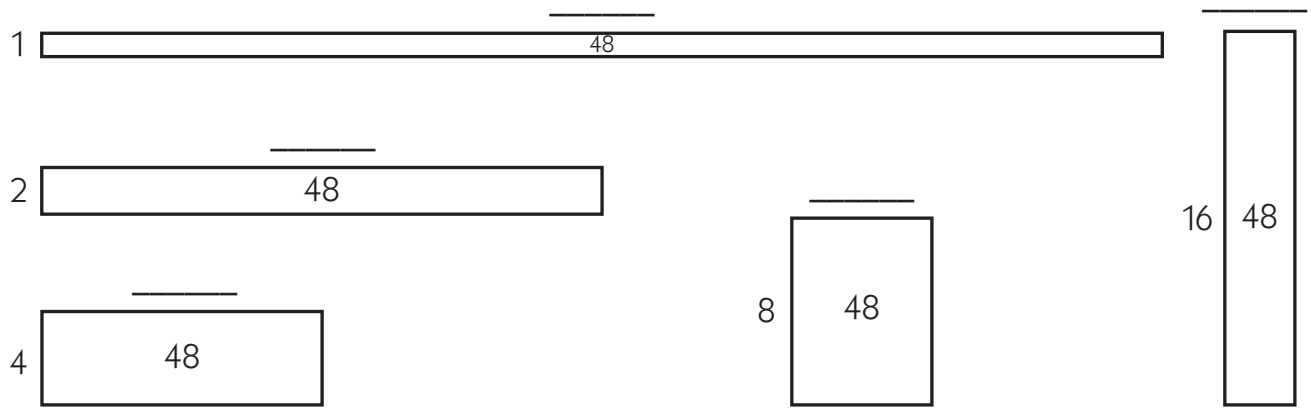
Home Connection 6 ★ Worksheet

Factors of 48

1 Imagine using 48 tile to build each rectangle below. Write in the missing dimensions on the rectangle sketches below.



2 The factors of 48 are:

1 and _____

2 and _____

4 and _____

8 and _____

16 and _____

3a Is 48 a prime or a composite number?

b How do you know?

4 Study your list of factors. What patterns do you observe among the factors?

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Home Connection 7 ★ Activity

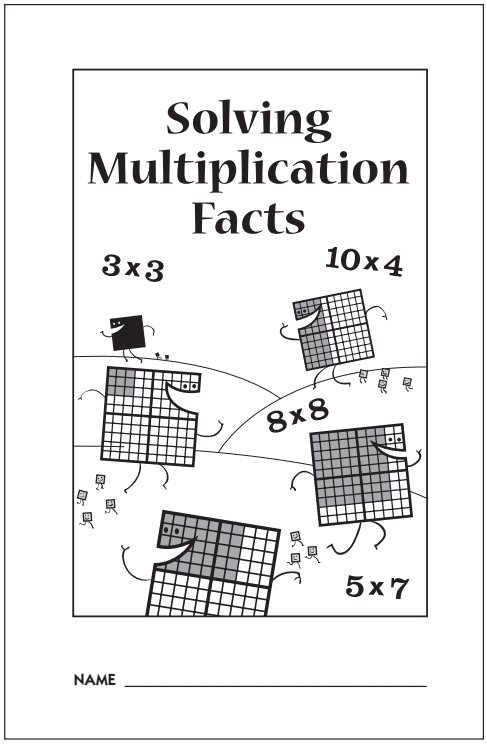
NOTE TO FAMILIES

For the past few weeks, we've been working on our basic multiplication facts at school. Instead of just memorizing the facts, we have been making sense of them by thinking about situations when we use multiplication in daily life. We have also been exploring strategies for remembering how to solve multiplication facts. In the book *Solving Multiplication Facts*, you'll see story problems and strategies that can help your child make sense of and master the basic multiplication facts. As always, these strategies are shown in picture form too, using the rectangular array model that is explained at the beginning of the book.

Instructions for *Solving Multiplication Facts* Book

Please read the book *Solving Multiplication Facts* with your child. If your child is not able to read it, you can certainly read it aloud to him or her. The book invites you and your child to think of multiplication facts and sketch illustrations or write problems about them. These activities are meant to get you and your child involved and talking with each other about math. We encourage you to do them with your child and keep the book at home for future reference. Please sign and return this sheet when you have finished reading the book.

Signature_____ Date_____



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Home Connection 8 ★ Worksheet

NOTE TO FAMILIES

With your child, read pages 20–23 in the Solving Multiplication Facts booklet before asking him or her to complete this worksheet.

Multiplying by 8 & 9

1 Circle all the double-double-doubles (×8) in blue. Then solve them and use a regular pencil to write each product.

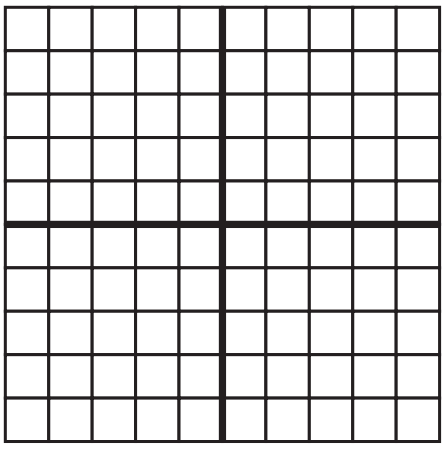
2 Circle all the decade minus 1 set facts (×9) in red. Then solve them and use a regular pencil to write each product.

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

3a Pick one fact from above and write it here: _____.

b Color in the array for that fact on the grid below.

c Label the array to show how you found the product, and use equations and/or words to explain your work.



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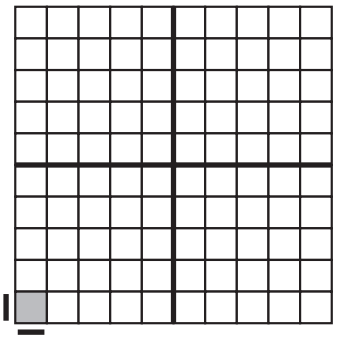
Home Connection 9 ★ Worksheet

example



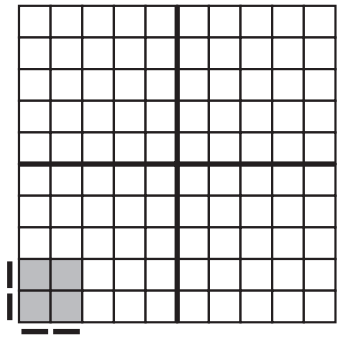
$1 \times 1 = 1$

Multiplication Facts

1 Complete the diagrams on this sheet.

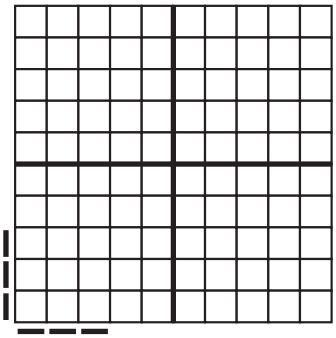
2 Below each diagram, write the multiplication equation that goes with the array.

a



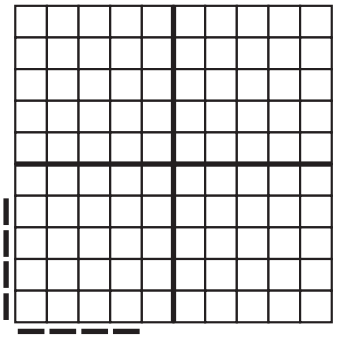
$2 \times 2 =$ _____

b



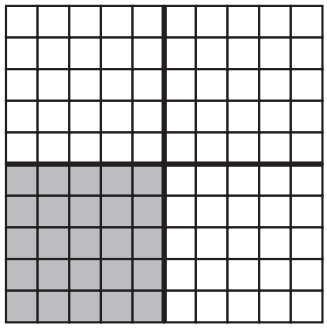
_____ × _____ = _____

c



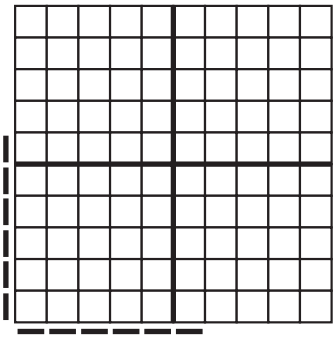
_____ × _____ = _____

d



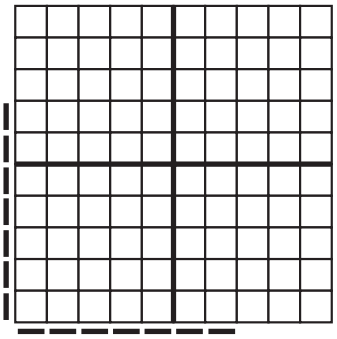
_____ × _____ = _____

e



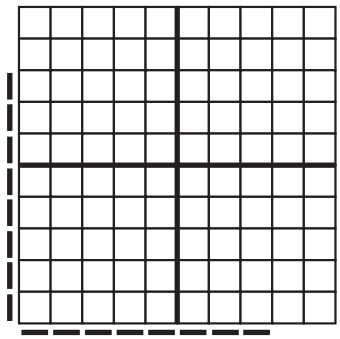
_____ × 6 = _____

f



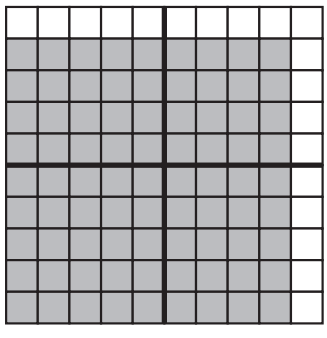
_____ × _____ = _____

g



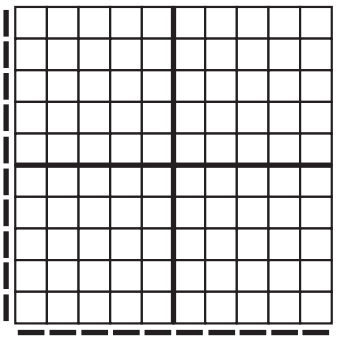
$8 \times$ _____ = _____

h



_____ × _____ = _____

i



_____ × _____ = 100

(Continued on back.)

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Home Connection 9 Worksheet (cont.)

3 Fill out the multiplication table.

×	0	1	2	3	4	5	6	7	8	9	10
0											
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											

4 Draw a box around each square number in the multiplication table.

5 Fill out each of these times tables.

×	6
0	0
1	6
2	12
3	
4	
5	30
6	
7	
8	
9	
10	

×	7
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

×	8
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

×	9
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

6 Describe the patterns you see among the multiples of 9.

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Home Connection 10 ★ Activity

NOTE TO FAMILIES

In today's assignment, students use the ruler on page 25 to draw as many rectangles with a perimeter of 20 inches as they can and then find the area of each one. You may recall that the perimeter of a rectangle is the total number of inches around its outside edge. Its area is the total number square inches required to cover the rectangle. Please have your child return his or her rectangles and this completed sheet to school.

Perimeter of 20

1 Use the paper ruler to draw as many rectangles with a perimeter of 20 inches as you can in the space below and on the back of this page. Make sure to label the dimensions of each rectangle. Use a piece of blank paper to draw rectangles that will not fit on this page or the next.

Please show your work here.

(Continued on back.)

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Home Connection 10 Activity (cont.)

Please show your work here.

2 Then record the dimensions, perimeter, and area for each rectangle on the table below. You do not need to fill in the entire table below. Just fill in a row for each rectangle you drew.

Rectangle	Dimensions	Perimeter	Area
example	4 in. x 6 in.	20 inches	24 square inches
a 1st rectangle			
b 2nd rectangle			
c 3rd rectangle			
d 4th rectangle			
e 5th rectangle			

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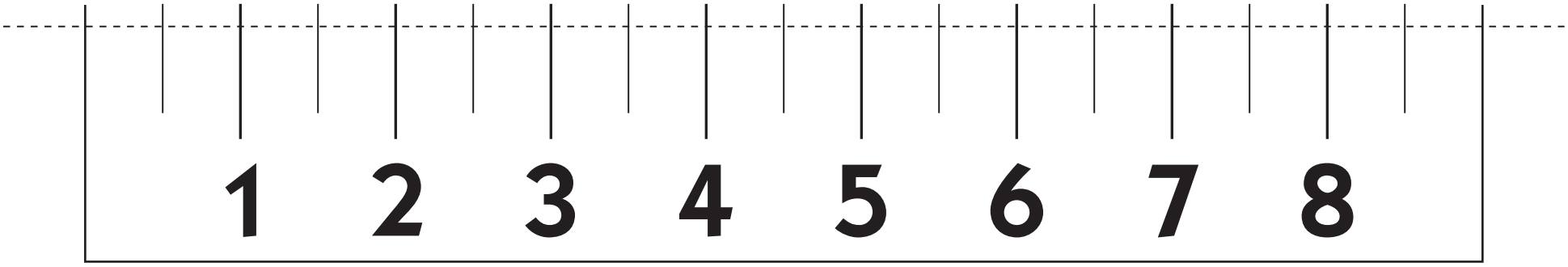
Home Connection 10 Activity (cont.)

9-Inch Ruler

Fold the entire sheet of paper along the dotted line to make a 9-inch straightedge ruler.



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