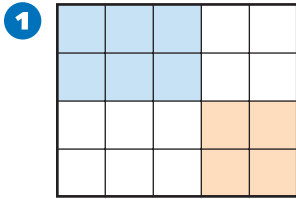


Multiplication Facts Practice

NCTM Standards 1, 2, 6, 7, 8, 9, 10

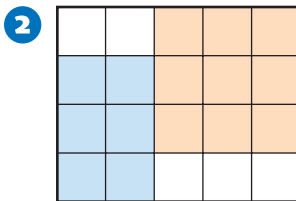


Number of blue squares:

Number of orange squares:

Number of white squares:

Total number of squares:

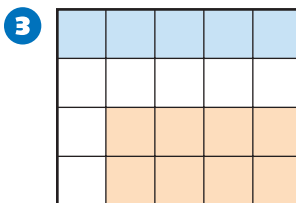


Blue:

White:

Orange:

Total:

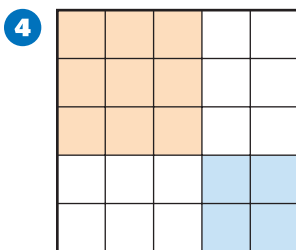


Blue:

White:

Orange:

Total:



Blue:

White:

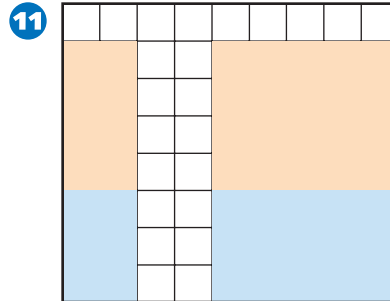
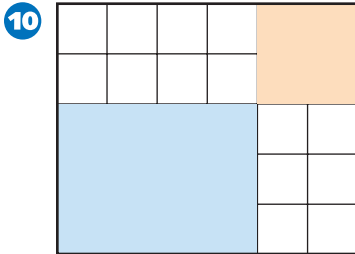
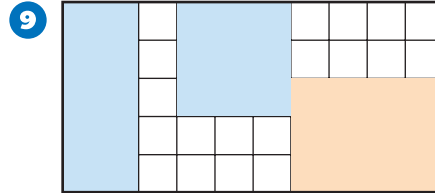
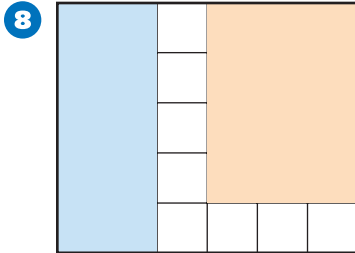
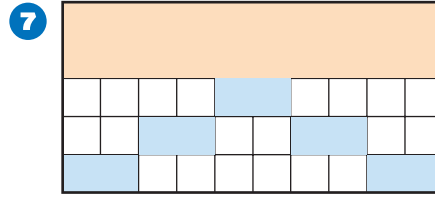
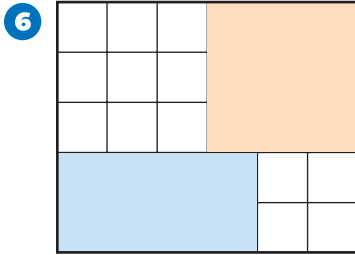
Orange:

Total:

- 5 Allyn bought 4 pairs of blue socks and 4 pairs of green socks. The rest of the socks he bought were white. He bought 20 socks (10 pairs of socks). How many white socks did he buy?

white socks or pairs of white socks

For each diagram, complete the column in the table below.



| | 6 | 7 | 8 | 9 | 10 | 11 |
|--------------------------|---|---|---|---|----|----|
| Number of blue squares | | | | | | |
| Number of orange squares | | | | | | |
| Number of white squares | | | | | | |
| Total number of squares | | | | | | |

12 Challenge Circle the sentences that correctly describe the table above. **B** stands for the number of blue squares, **O** stands for the number of orange squares, **W** stands for white squares, and **T** is total squares.

$B + O + W = T$

$B + O = T - W$

$W - O = T + B$

$T - B = W + O$

$T - O = B + W$

Connecting Multiplication and Division

NCTM Standards 1, 2, 6, 7, 8, 9, 10

For each problem, complete the number sentences on the left. Circle the sentence that matches the story. Then write the fact family for that sentence on the right.

| Sentences | Story | Fact Family |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| <p>1</p> <p>$6 \div 3 = \square$</p> <p>$6 \times 3 = \square$</p> <p>$3 + \square = 6$</p> <p>$\square \times 3 = 6$</p> | <p>Three north-south avenues cross our town. Six east-west streets cross those avenues. How many intersections are there?</p> | <p>_____</p> <p>$6 \times 3 =$</p> <p>_____</p> <p>_____</p> |

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| <p>2</p> <p>$4 + \square = 8$</p> <p>$8 \times 4 = \square$</p> <p>$\square \times 4 = 8$</p> <p>$4 + 8 = \square$</p> | <p>Four north-south avenues cross our town, and eight east-west streets cross our town. Those are our only roads. How many roads do we have?</p> | <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| <p>3</p> <p>$45 \div 5 = \square$</p> <p>$5 + 45 = \square$</p> <p>$45 - 5 = \square$</p> <p>$\square \div 5 = 7$</p> | <p>When Midori wraps a birthday present, she always uses 5 pieces of tape. She used 45 pieces of tape to wrap birthday gifts this month. How many gifts did she wrap?</p> | <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|

Write a story to match each number sentence.



4 $7 \times 4 = \square$



5 $48 \div 8 = \square$





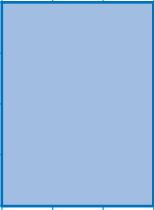
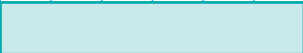




6 **Challenge** Write a multiplication and division fact family using the number 56. Then write a story about one of the number sentences.

| | |
|-------|-------|
| <hr/> | <hr/> |
| <hr/> | <hr/> |
| <hr/> | <hr/> |
| <hr/> | <hr/> |

Using Multiplication Facts

NCTM Standards 1, 2, 6, 10

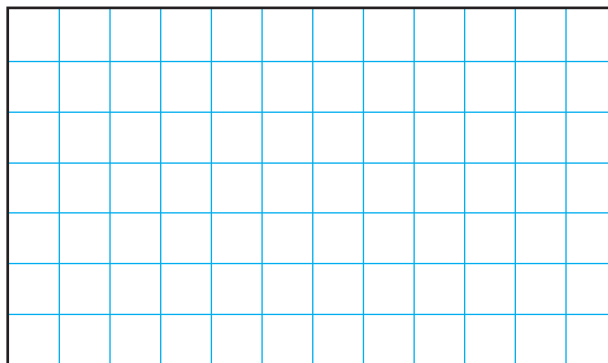
Write a number sentence to find the number of small squares hidden behind each figure.

| | | | |
|----------------------------------------------------------------------------------------------|------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------|
| <p>1</p>  | $4 \times 2 = 8$ | <p>2</p>  | $3 \times 5 = \square$ |
| <p>3</p>  | $\square \times \square = \square$ | <p>4</p>  | $\square \times \square = \square$ |
| <p>5</p>  | $\square \times \square = \square$ | <p>6</p>  | $\square \times \square = \square$ |
| <p>7</p>  | $\square \times \square = \square$ | <p>8</p>  | $\square \times \square = \square$ |

Write the number of small squares hidden behind each shaded rectangle. Then complete a number sentence for the entire figure.

| | | | |
|----|------------------------------------|----|------------------------------------|
| 9 | | 10 | |
| | $2 \times 5 = 10$ | | $\square \times \square = \square$ |
| 11 | | 12 | |
| | $\square \times \square = \square$ | | $\square \div \square = \square$ |
| 13 | | 14 | |
| | $\square \div \square = \square$ | | $\square \times \square = \square$ |

15 Challenge Draw a rectangle to match the number sentence.
 $5 \times 3 = 15$



Combining Arrays

NCTM Standards 1, 2, 6, 9, 10

**Write the number of squares in each section.
Then complete a multiplication sentence
for all the squares in the array.**

Example:

6 4
12 8

6 5 30

1

□ □ □

2

□ □ □

3 Eric planted 4 rows of cucumber plants last year, with 7 plants in each row. This year he added 2 more rows with 7 plants in each row. Write a number sentence to show how many plants he has now.

Write the number of squares in each section. Then complete a multiplication sentence for all the squares in the array.

4

9

6

5 7

5

6

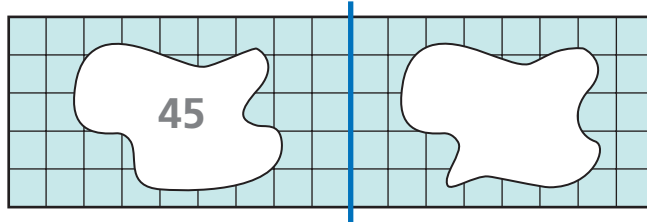
7 **Challenge**

Separating Arrays into Two Regions

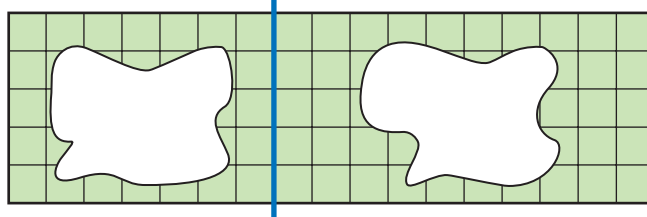
NCTM Standards 1, 2, 6, 7, 9, 10

For each diagram, write the number of squares in each part. Then write a multiplication sentence for the entire array.

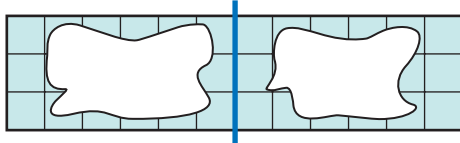
1



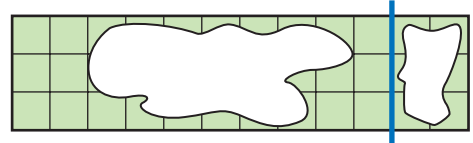
2



3

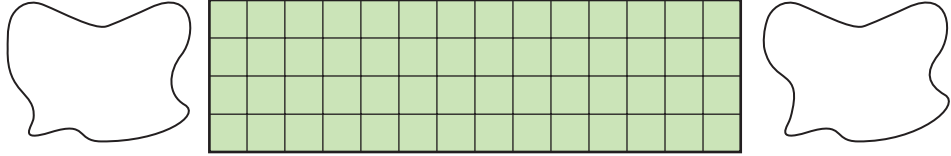


4



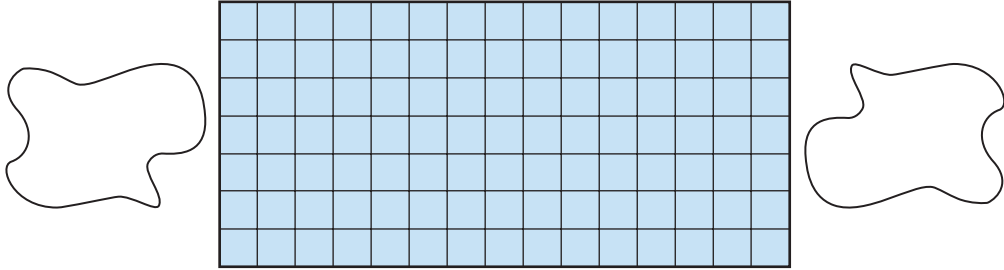
Draw a line to cut each of the arrays into 2 smaller arrays. Use the smaller arrays to figure out the number of squares in the entire array.

5



□ □ □

6



□ □ □

7 Sol's store sold pens in packs of 5. Today, Sol sold 16 packs of pens. Ten of the packs contained black pens, and the rest had blue pens. How many pens of each type did Sol sell?

_____ black pens and _____ blue pens

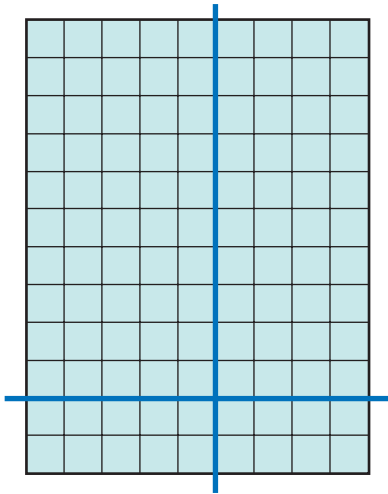
8 Challenge Draw a picture to show how you can use the numbers you wrote in Problem 7 to help you solve 16×5 .

Separating Arrays into Four Regions

NCTM Standards 1, 2, 6, 7, 8, 9, 10

Complete the Cross Number Puzzle and the multiplication sentence to match each separated array.

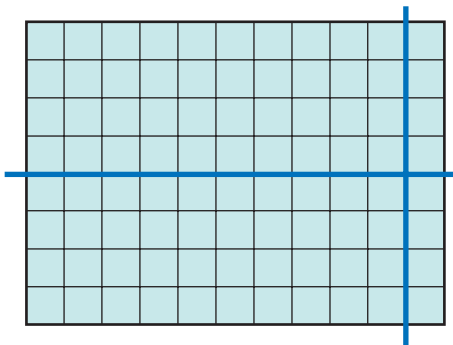
1



| | | |
|----|----|-----|
| 50 | 40 | |
| 10 | 8 | |
| | | 108 |

$$\boxed{12} \times \boxed{} = \boxed{108}$$

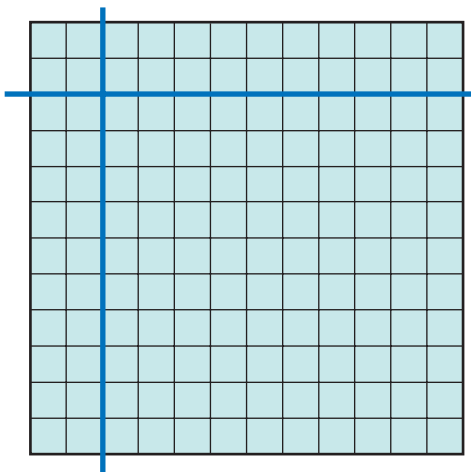
2



| | | |
|--|---|--|
| | 4 | |
| | | |
| | | |

$$\boxed{} \times \boxed{} = \boxed{}$$

3



| | | |
|--|--|--|
| | | |
| | | |
| | | |

$$\boxed{} \times \boxed{} = \boxed{}$$

Draw and label an array to match each Cross Number Puzzle. Then complete the puzzle.

4

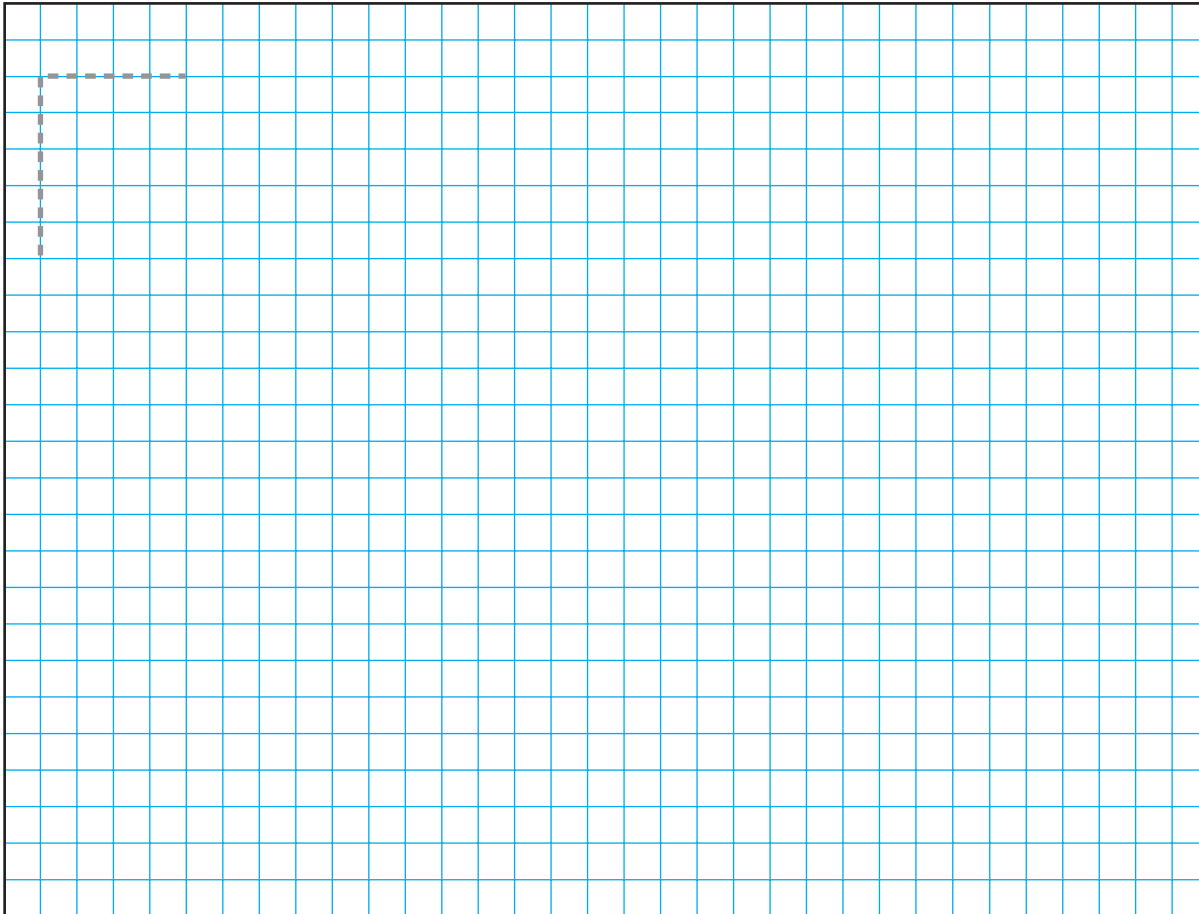
| | | |
|----|----|--|
| 36 | 30 | |
| 30 | 25 | |
| | | |

5

| | | |
|----|----|--|
| 50 | 10 | |
| 30 | | |
| | | |

6

| | | |
|----|----|--|
| 10 | 2 | |
| | 20 | |
| | | |

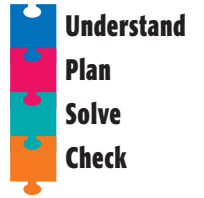


7 Challenge Callie drew an array with **12** rows and **7** tiles in each row. How can you find how many tiles are in the array?

Problem Solving Strategy

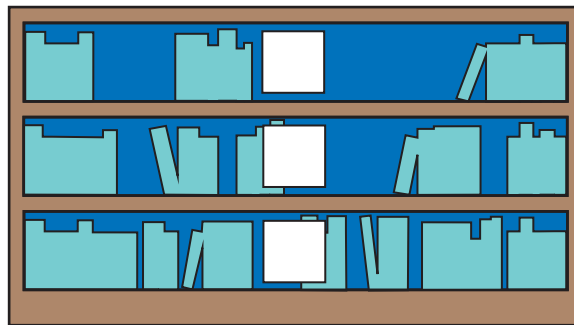
Guess and Check

NCTM Standards 1, 2, 6, 7, 8, 9



- 1 Two numbers have a product of 54.
Their difference is 25.
What are the numbers?

- 2 The bookstore has 48 books displayed on 3 shelves.
Each shelf has 4 more books than the shelf above.
How many books are on each shelf?

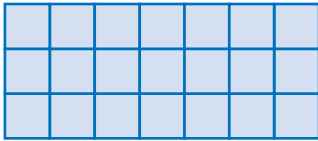


- 3 Eleven friends shared 143 trading cards equally. How many cards did each friend get?

Problem Solving Test Prep

Choose the correct answer.

- 1 Which numbers make a fact family shown by the array?



- A. 3, 7, 10 C. 3, 9, 27
B. 3, 7, 21 D. 3, 8, 24

- 2 The numbers on the cube below are counting numbers, starting with 1. Rita tosses the cube one time. Which list shows all possible outcomes?

- A. 1, 3, 5
B. 1, 3, 5, 6
C. 1, 2, 3, 4, 5
D. 1, 2, 3, 4, 5, 6



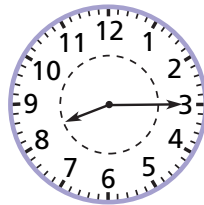
- 3 Which pair of numbers would **NOT** make a true number sentence?

$$\blacksquare + \blacktriangle = 23$$

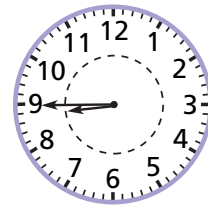
- A. 12, 13 C. 14, 9
B. 11, 12 D. 15, 8

- 4 The clocks let you find how long it takes Lia to get to school. What fraction of an hour does it take her to get to school?

Leaves home



Arrives at school



- A. $\frac{1}{4}$ C. $\frac{2}{3}$
B. $\frac{1}{2}$ D. $\frac{3}{4}$

Show What You Know

Solve the problem. Explain your answer.

- 5 Use the graph at right. How many students were absent on Monday? Explain.

| STUDENTS ABSENT ON MONDAY | |
|---------------------------|--|
| Fifth grade | |
| Fourth grade | |
| Third grade | |

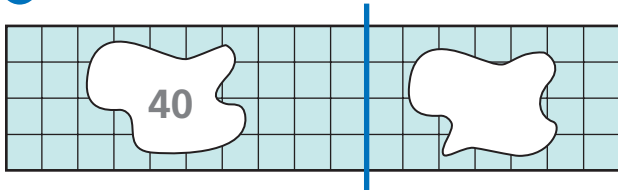
Key: Each = 3 students.

Review/Assessment

NCTM Standards 1, 2, 6, 7, 9, 10

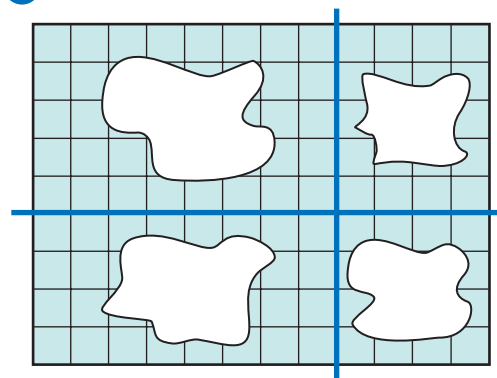
For each diagram, write the number of squares in each part. Then write a multiplication sentence for the entire array.

1 Lesson 5

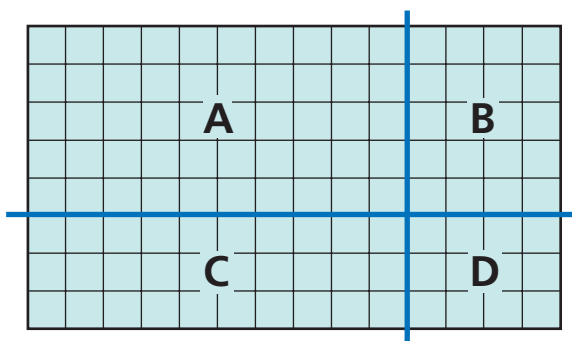


4

2 Lesson 6



3 Lesson 4



Number of squares in **A**:

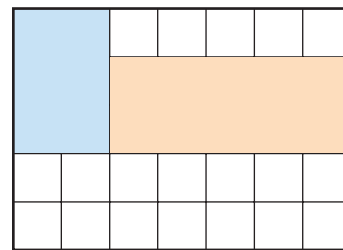
Number of squares in **B**:

Number of squares in **A + C**:

Number of squares in **B + D**:

Total number of squares:

4 Lesson 1



Number of blue squares:

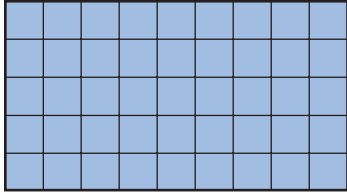
Number of orange squares:

Number of white squares:

Total number of squares:

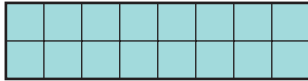
Write a multiplication sentence to describe the array. Lesson 3

5



| | | |
|---|--|--|
| 5 | | |
|---|--|--|

6



| | | |
|--|--|--|
| | | |
|--|--|--|

Write the fact family for the story. Lesson 2

7 Jared passed out 56 playing pieces equally to 7 players. How many pieces did each player get?

$7 \times$

8 Stacy bakes a dozen muffins each month for snacks. How many months does it take her to bake 132 muffins?

9 There are 100 vehicles in the parking lot. Ten are motorcycles. The rest are cars and trucks. There are twice as many cars as trucks. How many cars are in the parking lot? Lesson 7
