

Solve One-Step Word Problems Using Multiplication and Division

Name: _____

Prerequisite: Write Multiplication and Division Sentences

Study the example showing how to write multiplication and division sentences for equal groups. Then solve problems 1–12.

Jin has 3 rows of frog stickers with 5 stickers in each row.

Multiplication:

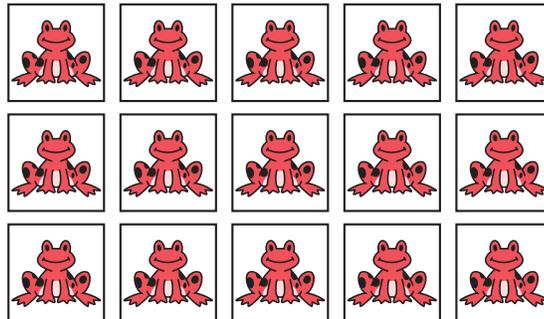
3 rows \times 5 stickers in each row is 15 stickers

$$3 \times 5 = 15$$

Division:

15 stickers shared into 3 rows of 5

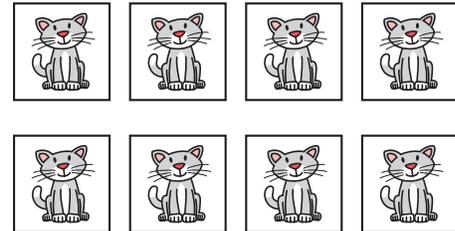
$$15 \div 3 = 5$$



1 How many rows of cat stickers are there? _____

2 How many cat stickers are in each row? _____

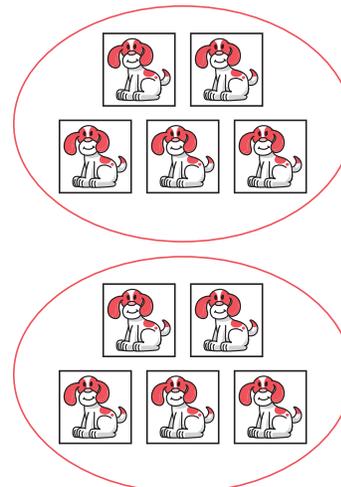
3 Write the multiplication sentence for the array of cat stickers.



4 How many dog stickers are there? _____

5 How many groups of dog stickers are there?

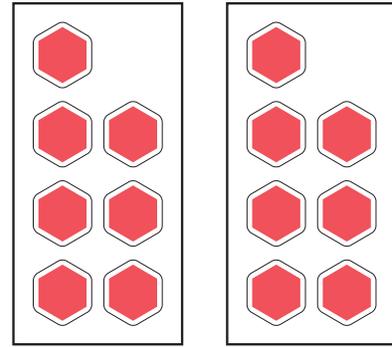
6 Write a division sentence that says the 10 stickers are shared into 2 groups of 5.



Solve.

- 7 Write a multiplication sentence to describe the equal groups of hexagon stickers on the right.

- 8 Write a division sentence to describe the equal groups of hexagon stickers.



There are 4 cards with 3 triangle stickers on each card.

- 9 Sketch the cards with the triangle stickers.

- 10 Write a multiplication sentence to describe the equal groups of triangle stickers.

- 11 Write a division sentence to describe the equal groups of triangle stickers.

There are 15 circle stickers. They are on 3 cards, in groups of 5.

- 12 Write a multiplication sentence and a division sentence to describe the equal groups of circle stickers.



Solve Problems About Equal Groups

Study the example that shows how a drawing can help you understand problems about equal groups. Then solve problems 1–8.

Example

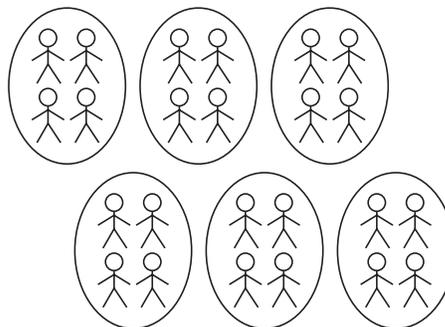
24 students signed up for an Irish folk dancing class.
There are 4 students in each group. How many groups are there?

Draw a picture.

24 students

4 in each group

N groups



Write a number sentence.

$$24 \div 4 = N$$

$$N = 6$$

There are 6 groups of students.

18 students take hula dance classes. There are 6 students in each class. How many classes are there?

1 Make a drawing for this problem. Use ☺ for each student. Make groups to show the classes.

2 Complete the multiplication and division sentences for this problem. Write the value of N .

$$18 \div \underline{\quad} = N \quad N \times \underline{\quad} = 18 \quad N = \underline{\quad}$$

3 How many hula dance classes are there? _____



Solve.

There are 2 classes for Mexican folk dance. There are 8 students in each class. How many students take Mexican folk dance class?

4 What is the unknown that you need to find out?

5 Write a number sentence for the problem. Use N to stand for the number you need to find out. Solve the problem.

Number Sentence: _____

Solution: _____ students take Mexican folk dance class.

15 students take modern dance lessons. There are 3 students in each group. How many groups of students are there?

6 Write a number sentence for the problem. Then solve.

Number Sentence: _____

Solution: There are _____

7 If 15 more students sign up for modern dance, how many groups would there be?

Number Sentence: _____

Solution: There are _____

8 How can you use the answer to problem 6 to find the answer to problem 7?



Solve Problems About Arrays

Study the example that shows how an array can help you solve multiplication and division problems. Then solve problems 1–6.

Example

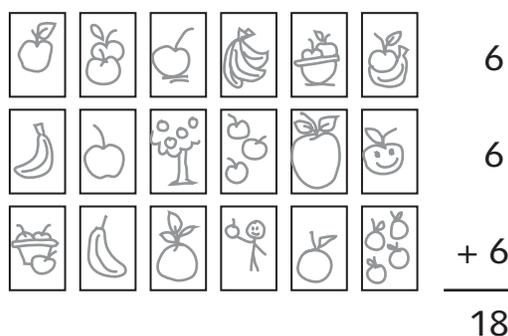
The art teacher wants to hang 18 drawings on the hall wall. She will hang 6 drawings in each row. How many rows of drawings will there be?

18 drawings
6 in each row
 N rows

$$18 \div 6 = N \quad \text{and} \quad 6 \times N = 18$$

$$18 \div 6 = 3 \quad \text{and} \quad 6 \times 3 = 18$$

There will be 3 rows of drawings.



In the art room, there are 20 easels. The easels are arranged in 4 equal rows. How many easels are in each row?

- 1 Draw an array to show the 20 easels in 4 rows. Put the same number in each row. Use a \square to show each easel.

- 2 Complete the division sentence to solve the problem. N stands for the unknown.

$$20 \div \underline{\hspace{2cm}} = N, \text{ so } N = \underline{\hspace{2cm}}$$

- 3 How many easels are in each row. _____



Solve.

- 4 The art room has 5 shelves of paint jars. There are 9 paint jars on each shelf. How many paint jars are in the art room?

Show your work.

Solution: _____

- 5 There are 54 frames on the wall in an art store. The frames are in 6 equal rows. How many frames are in each row?

Show your work.

Solution: _____

- 6 The store has 3 shelves with the same number of drawing pads on each shelf. There are 30 drawing pads in all. How many drawing pads are on each shelf?

Show your work.

Solution: _____

Solve Problems About Tiling

Study the example that shows how to use drawings and number sentences to help you solve multiplication and division problems about tiling. Then solve problems 1–6.

Example

Mrs. Milton puts same-size square tiles on the patio floor. She uses 21 tiles and makes 3 rows of tiles.

All rows have the same number of tiles.

How many tiles are in each row?

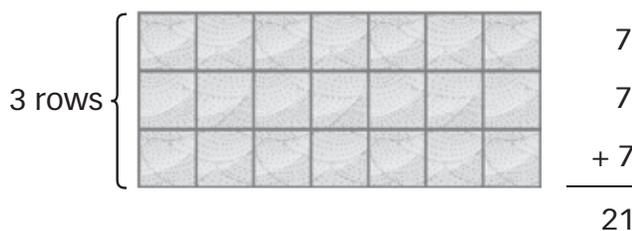
21 tiles

3 rows

N tiles in each row

$$21 \div 3 = N \quad \text{and} \quad 3 \times N = 21$$

$$21 \div 3 = 7 \quad \text{and} \quad 3 \times 7 = 21$$



There are 7 tiles in each row.

Mr. Salton paved the entrance to his house with stone tiles. He used 42 same-size square tiles. He put 7 tiles in each row. How many rows of tiles are there?

- 1** Make a drawing to show the rows of tiles.

- 2** Complete the division sentence to solve the problem. Use N to stand for the unknown number.
 $42 \div \underline{\hspace{2cm}} = N$, so $N = \underline{\hspace{2cm}}$

- 3** How many rows of stone tiles are there? _____



Solve.

- 4 Mrs. Ross made a quilt using same-size squares of fabric. She used 36 squares and put 9 squares in each row. How many rows are there?

Show your work.

Solution: _____

- 5 There are 7 rows of squares on a game board. There are 9 squares in each row. How many squares are on the game board?

Show your work.

Solution: _____

- 6 Each square on the game board in problem 5 has sides that are 2 inches long. How long and how wide is the section of squares?

Show your work.

Solution: The section of squares is
_____ inches wide and _____ inches long.

Solve One-Step Word Problems

Solve the problems.

- 1 Dave tiles part of the kitchen wall. He makes 6 rows with 8 tiles in each row. How many tiles does he use?

Show your work:

Solution: _____

What does each number in the problem stand for?



- 2 There are 36 paint brushes in 4 jars. Each jar has the same number of brushes. Which of these would you use to find the number of brushes in each jar? Circle the letter of all that apply.

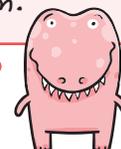
A $36 + 4 = \square$

B $4 \times \square = 36$

C $36 \div 4 = \square$

D $36 - 4 = \square$

I think there are two ways to solve this problem.

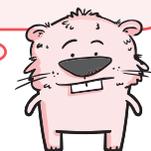


- 3 There are 2 racks and 14 paint aprons. There are the same number of aprons on each rack. How many aprons are on each rack?

Show your work.

Solution: _____

Think about the number of rows and the number in each row.



Solve.

- 4** There are 48 tubes of oil paint on trays. Each tray holds 6 tubes. How many trays of tubes are there?

Show your work.

Solution: _____

What are you trying to figure out?



- 5** There are 9 boxes of crayons with 8 crayons in each box. Which of these would you use to figure out the total number of crayons?

A $72 \div 8 = \square$

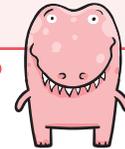
C $8 + 9 = \square$

B $8 \times 9 = \square$

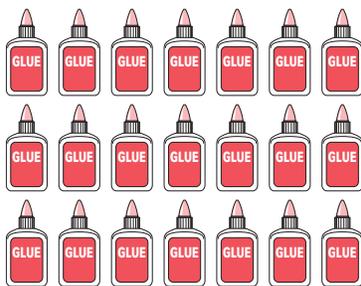
D $72 \div \square = 9$

Renee chose **A** as the correct answer. Explain why that answer isn't correct.

To find the total number, should you multiply or divide?



- 6** The drawing shows the arrangement of bottles of glue in the art room. Write a multiplication equation and a division equation for this drawing.



Multiplication equation: _____

Division equation: _____

This looks like an array to me.

