



# Multiplication as “Equal Groups of”

## Unit 1 Lesson 1

## What is the equal groups strategy?

The equal groups strategy is one way to multiply factors visually. Factors are what we call the numbers that we multiply. Multiplication using the equal groups strategy means having to place **a certain number of objects into a certain number of groups.**

We can read a multiplication equation  **$A \times B$**  as having **A equal groups of B.**

The factors are the numbers that determine **how many groups to make** and **how many items to put in each group.**

That means that **the amount of items inside one group is always equal to the amount of items inside other groups.**

What is the equal groups strategy?

Number  
of  
groups  
to make

For example,

$$4 \times 3$$

can be read as having

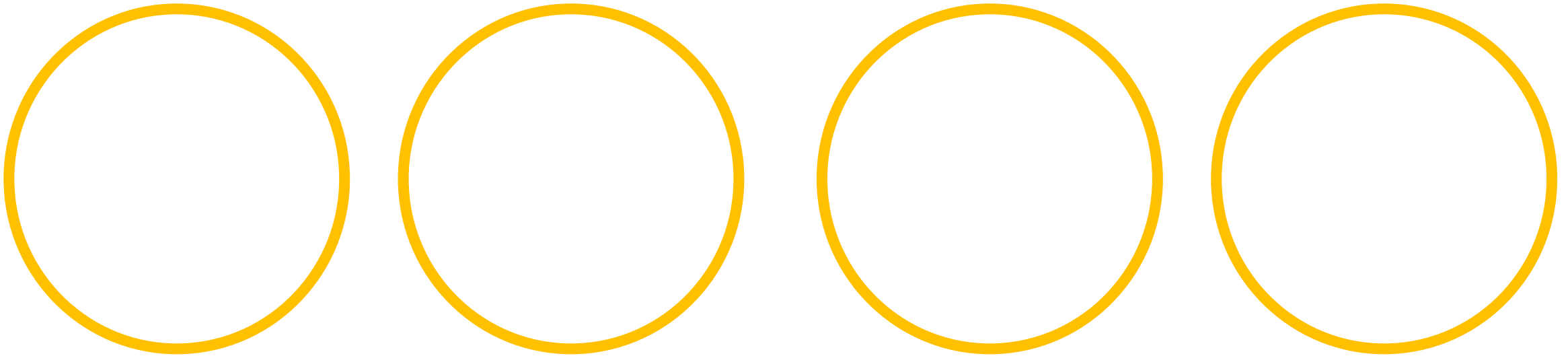
Number  
of items  
in each  
group

**4 equal groups of 3**

What is the equal groups strategy?

$4 \times 3$

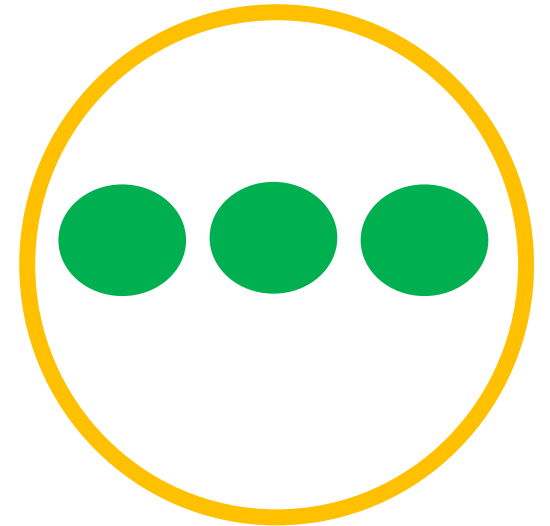
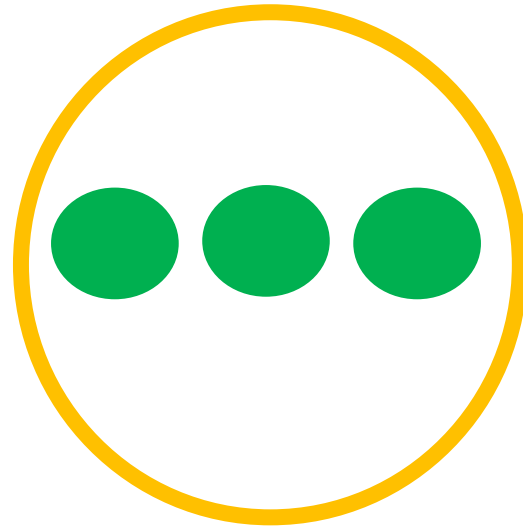
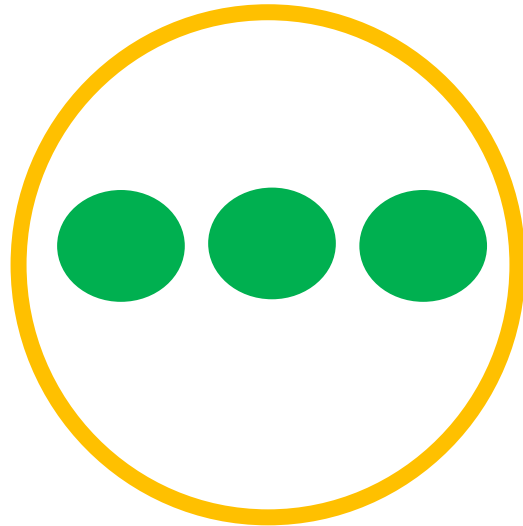
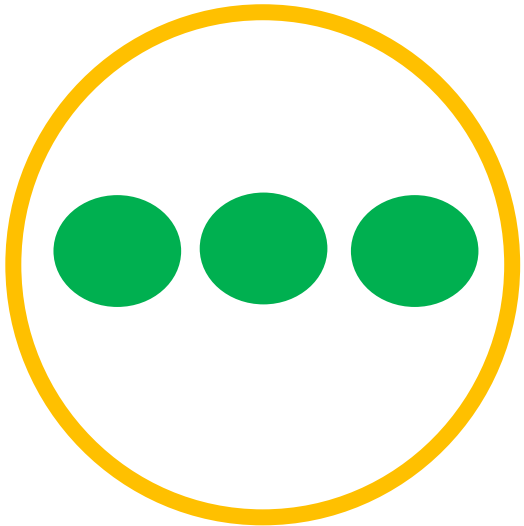
First, draw 4 circles:



What is the equal groups strategy?

$$4 \times 3$$

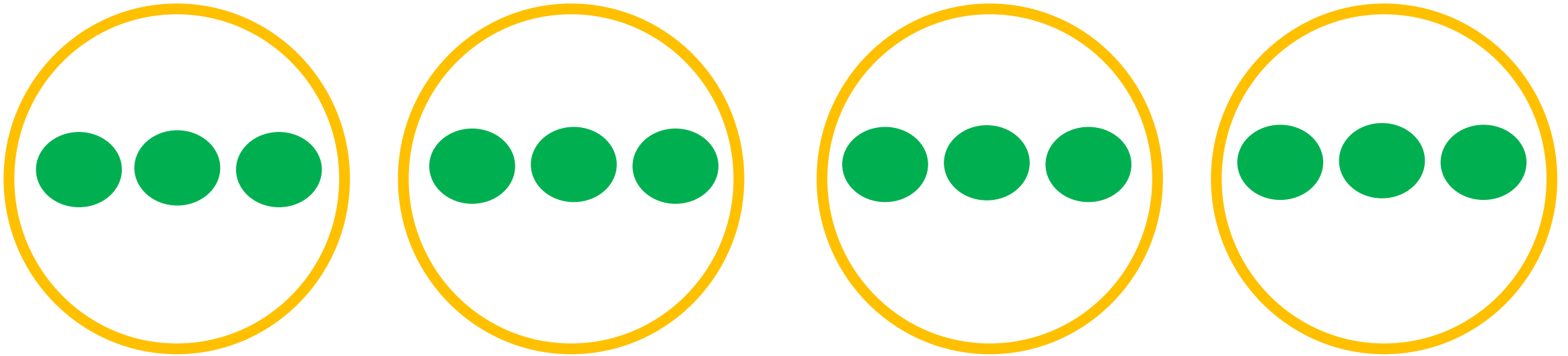
Then, draw 3 dots in each circle:



What is the equal groups strategy?

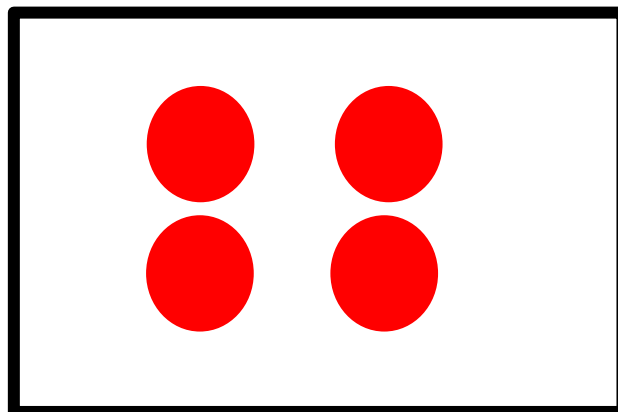
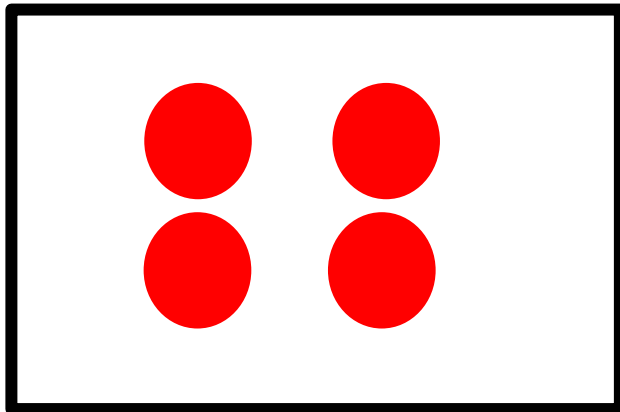
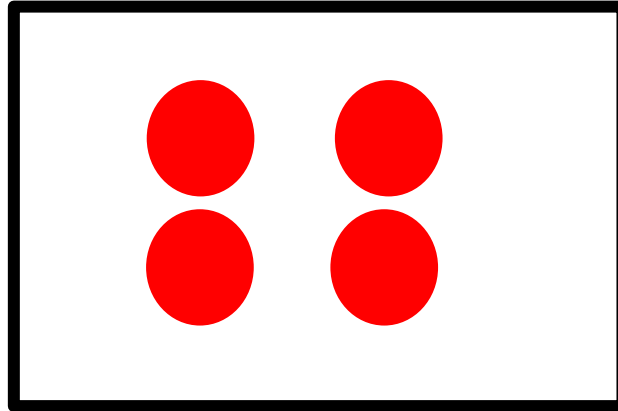
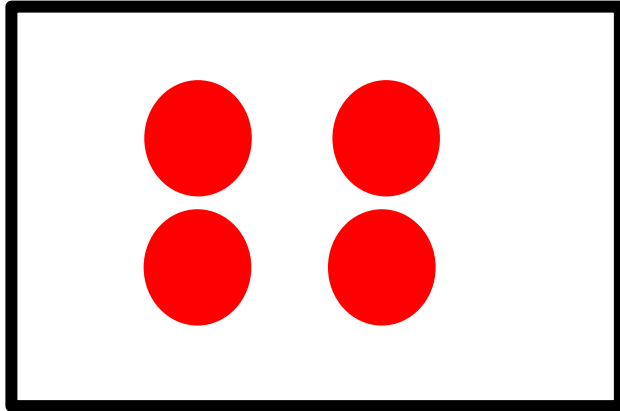
$4 \times 3$

Count all the dots placed in all the groups:



**ANSWER: 12**

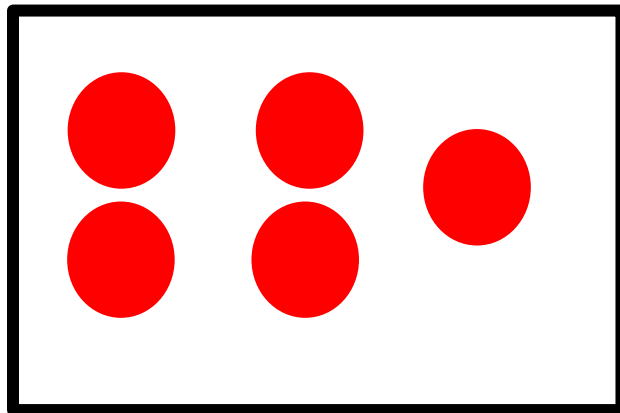
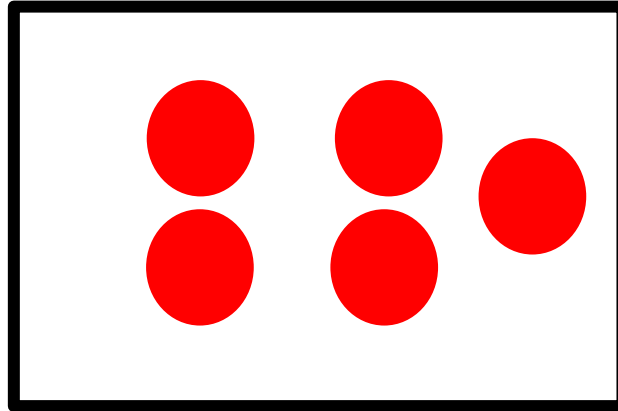
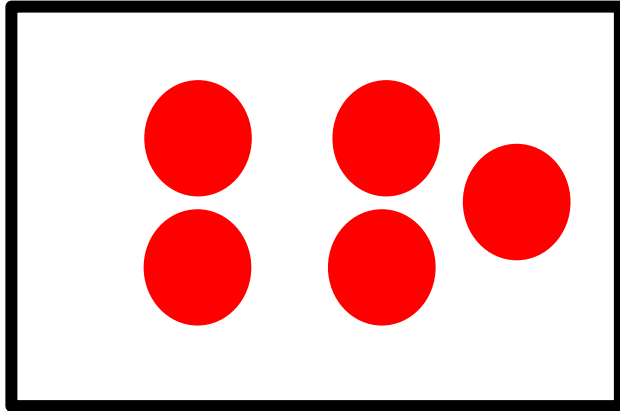
Draw 4 dots in each group



PRODUCT:

**16**

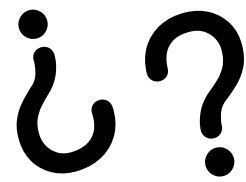
Draw 5 dots in each group



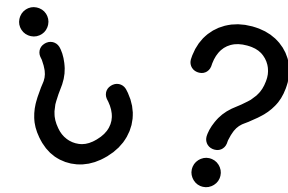
PRODUCT:

**15**





**Time to Think**

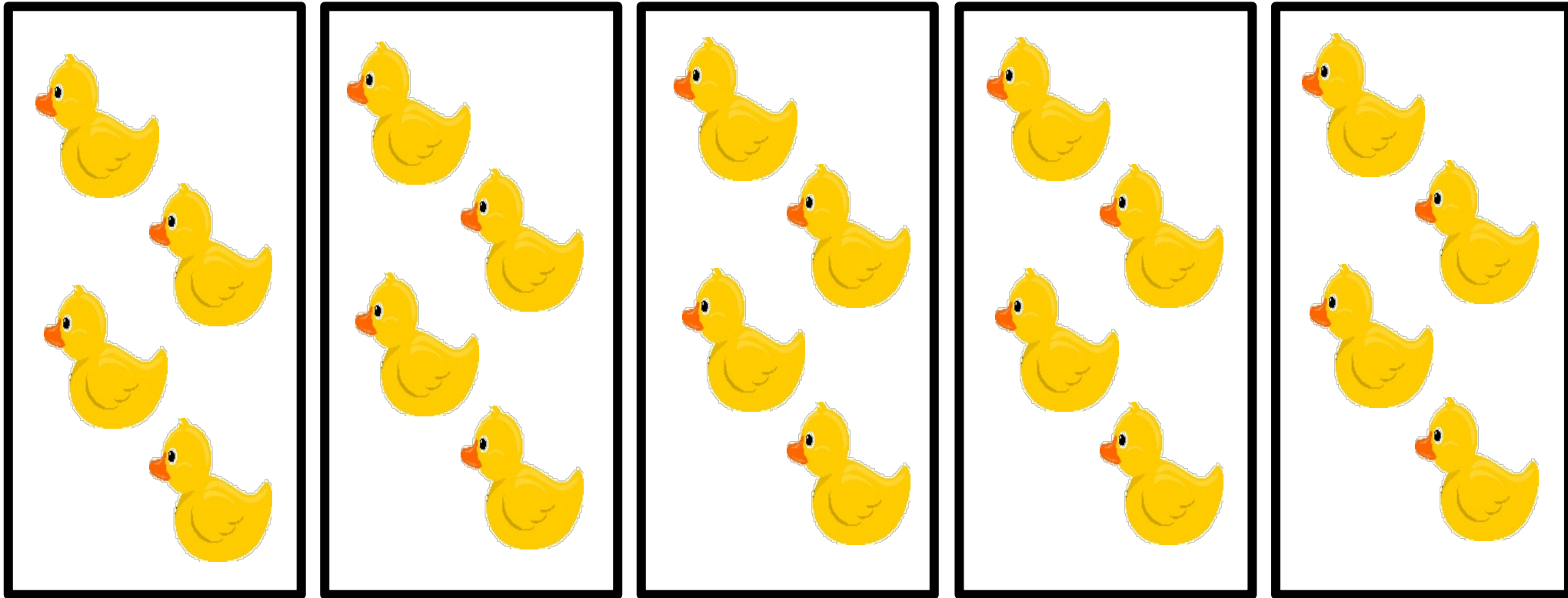


**1. How would you read  $5 \times 7$  as equal groups of?**

**➤** I would read it as 5 equal groups of 7.

**2. In the expression  $6 \times 7$ , how many groups will you make and how many items will be in each group?**

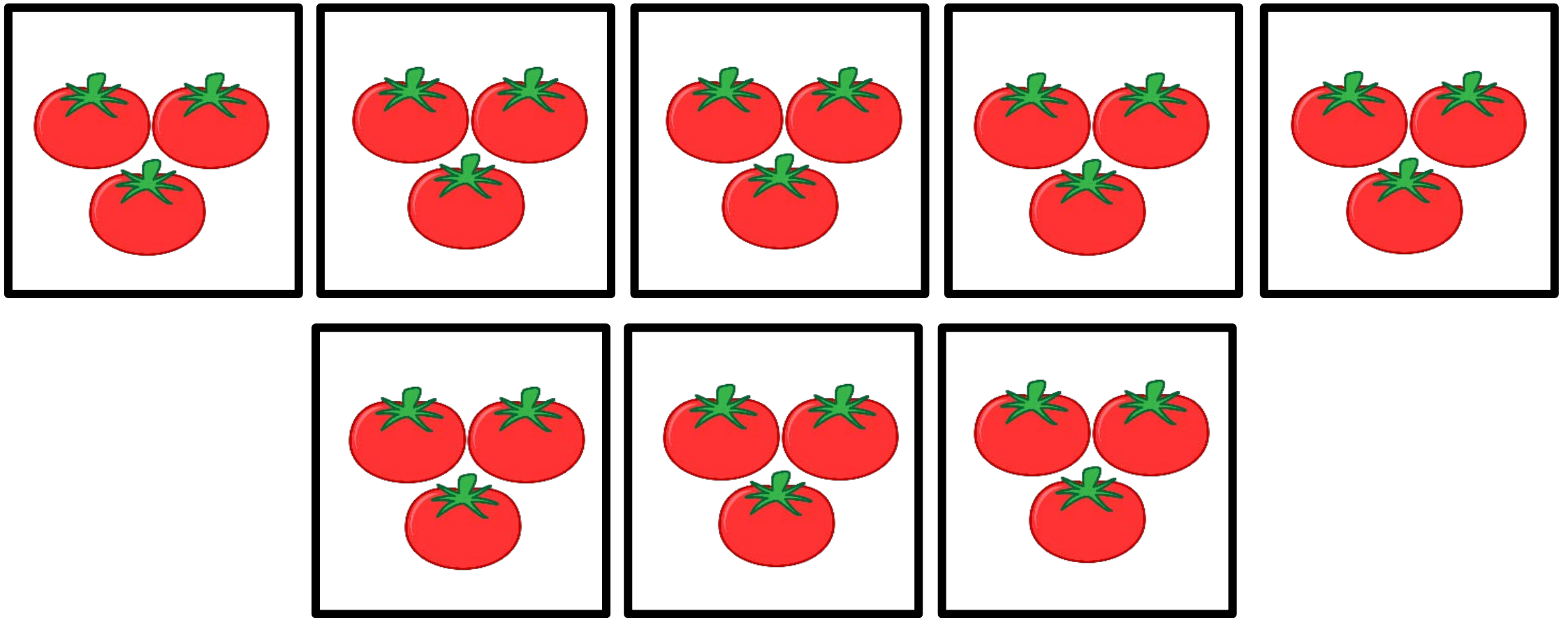
**➤** There will be 6 groups and 7 items in each group.



There are 5 groups of 4 ducks.

What would be the expression for the groups of ducks?

$$5 \times 4$$

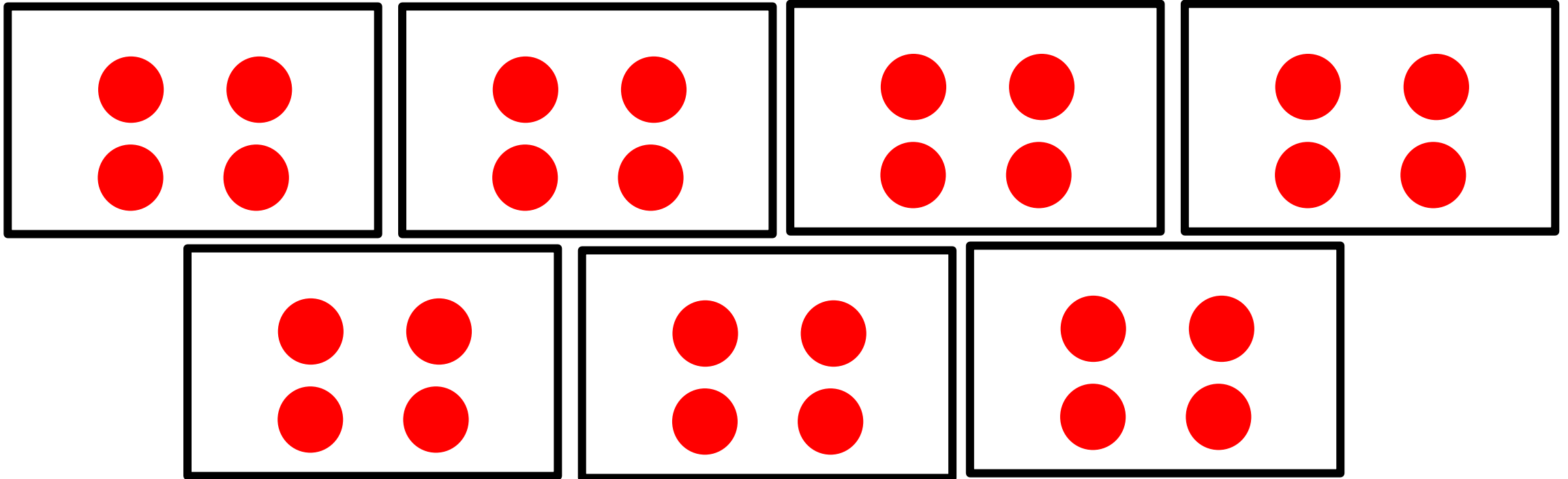


There are 8 groups of 3 tomatoes.

What would be the expression for the groups of tomatoes?

$$8 \times 3$$

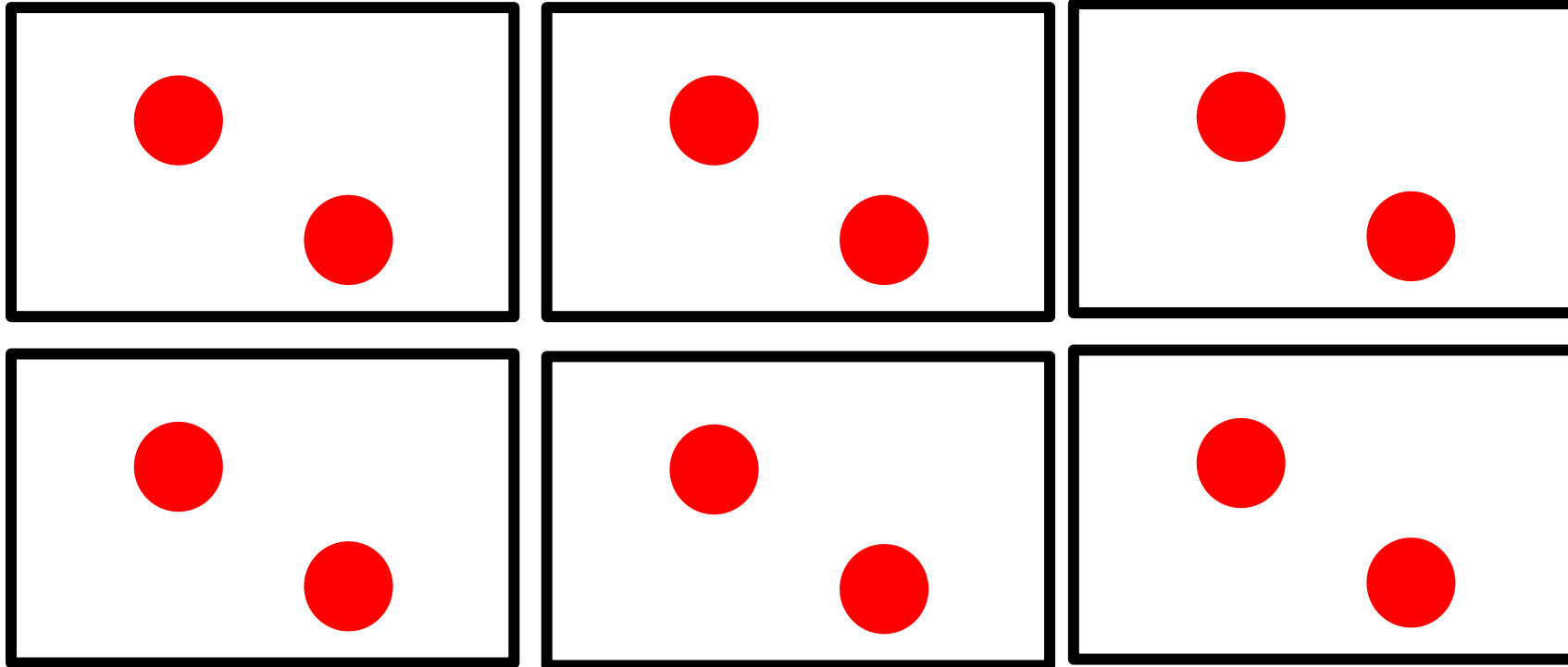
Draw  $7 \times 4$



There are **7** groups of **4**.

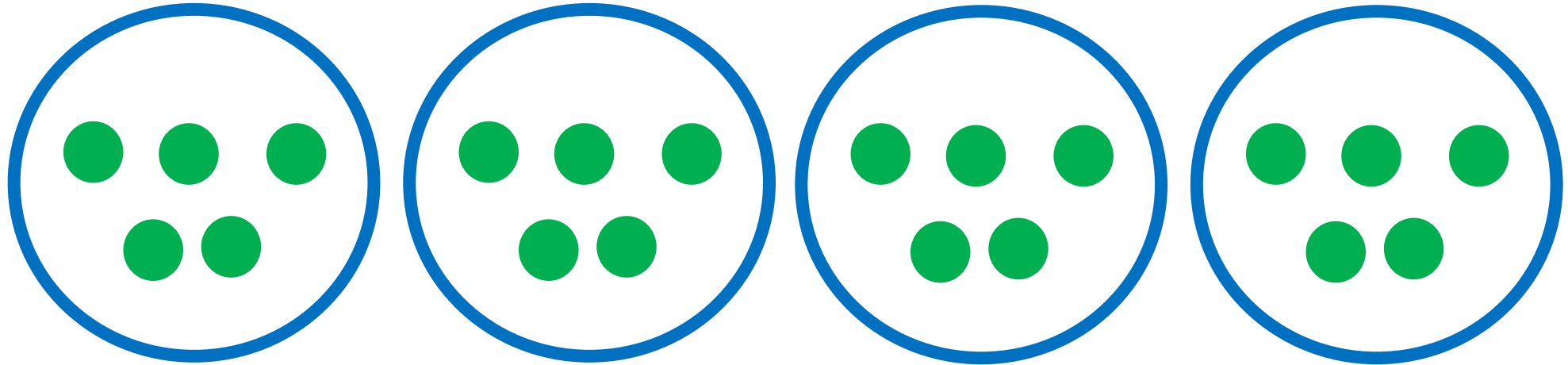
The product is **28**.

Draw  $6 \times 2$



There are 6 groups of 2.

The product is 12.



How many dots are in each group?

5

How many groups are there?

4

# Time to Think

1. In the previous slide, how many times is the number repeated? What kind of addition will happen if we add all these numbers?

The number 5 is repeated 4 times. Adding these numbers is a kind of repeated addition.

2. What is the answer using addition and the answer using multiplication as equal groups of? What do you notice about the answers?

Using addition,  $5 + 5 + 5 + 5 = 20$

Using multiplication, 4 groups of 5 is  $4 \times 5 = 20$

Using repeated addition and the equal groups strategy will produce the same answer.

The number of groups determine how many times the number of dots will be added repeatedly.

Katy has 3 paper bags. She put 8 jelly beans in each bag.  
How many jelly beans does she have?  
Draw 3 paper bags of 8 jelly beans.

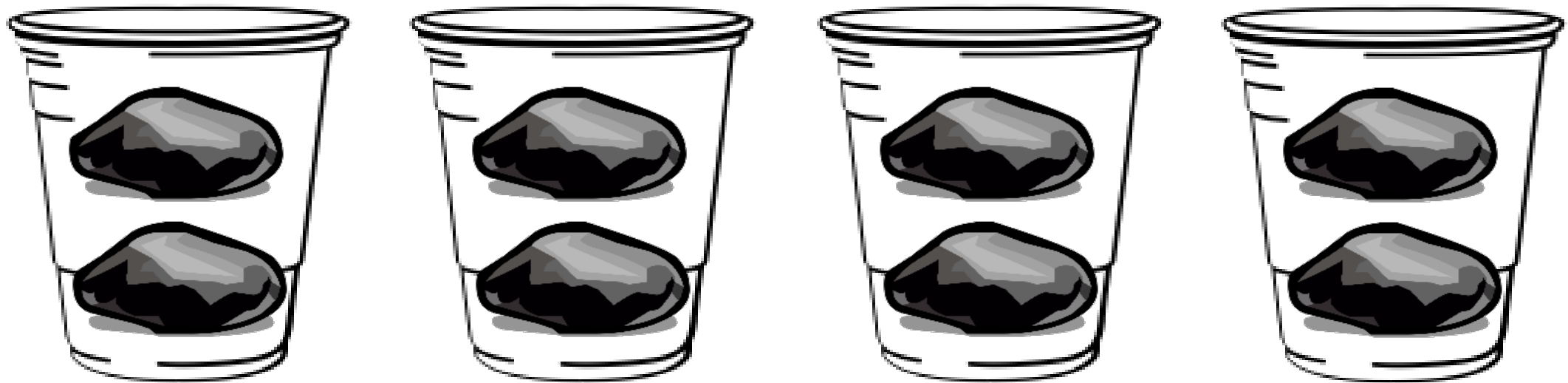


There are 24 jellybeans.



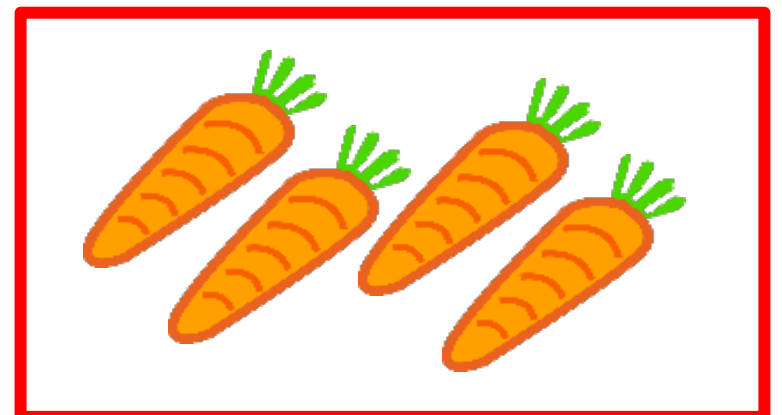
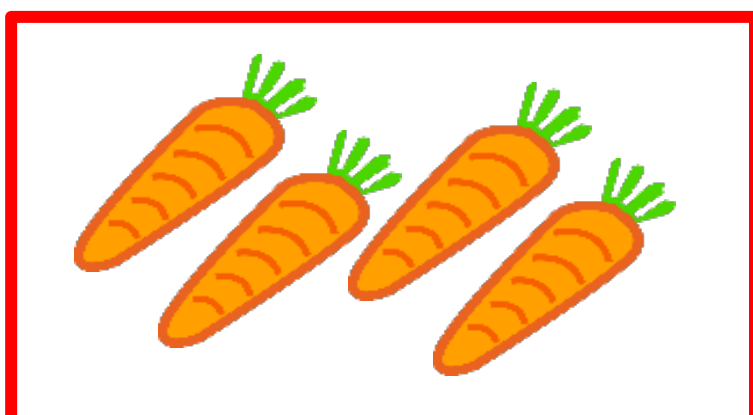
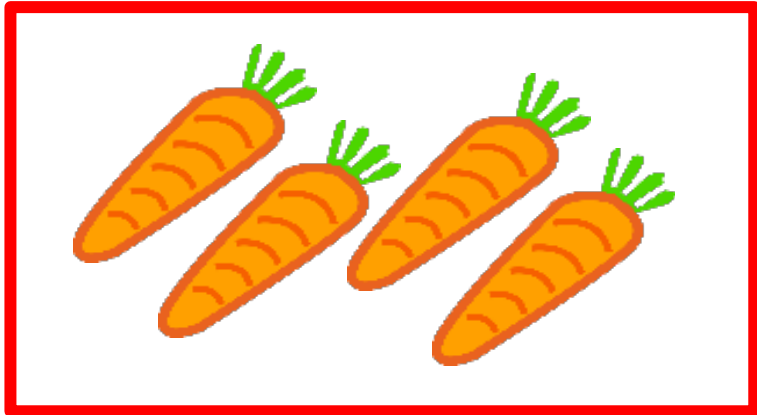
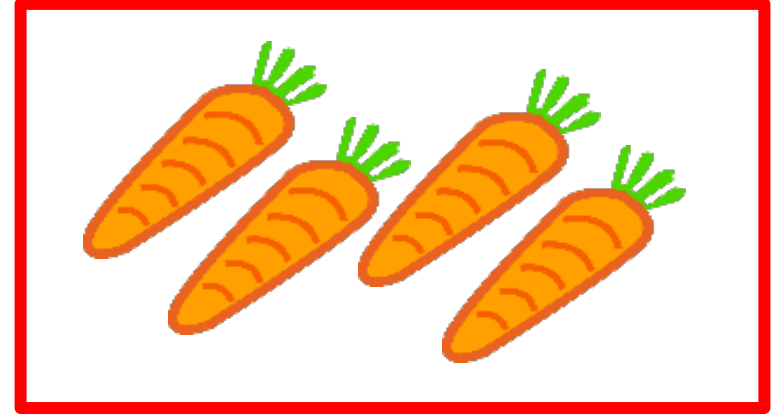
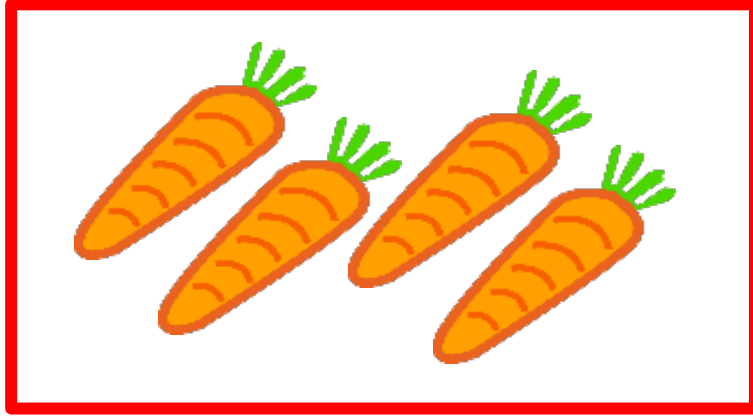
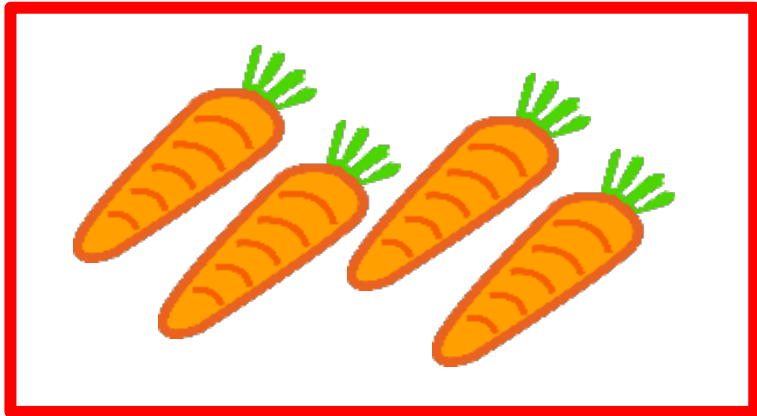
Troy has 4 cups. He put 2 pebbles in each cup. How many pebbles did he put in all cups?

Draw 4 cup of 2 pebbles.



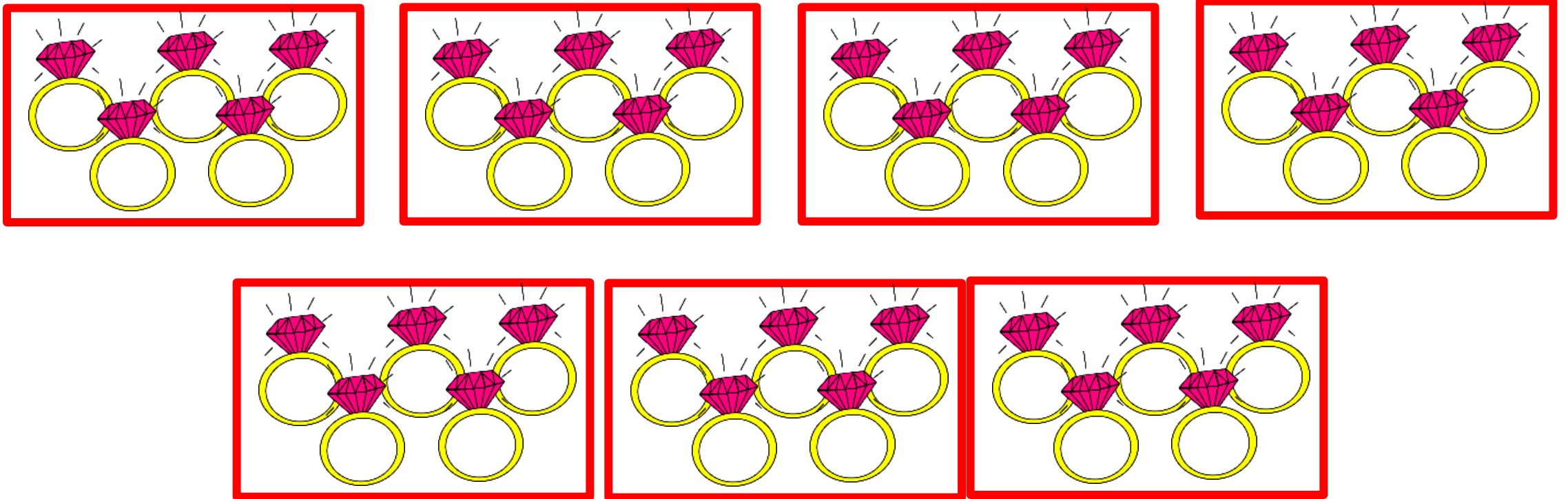
There are 8 pebbles.

Harry has 6 bags that have 4 carrots each. How many carrots does he have?



6 groups of 4 mean  $6 \times 4$ . The product is **24 carrots**.

Steff wants to put 5 rings each in 7 containers. How many rings are there altogether?



7 groups of 5 mean  $7 \times 5$ . The product is **35 rings**.