

4A Introducing Ratio



Learn



We can build 1 car for every 4 wheels.

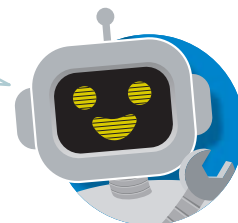
The **ratio** of the number of cars to the number of wheels is 1 to _____.

We write it as 1 : _____.

The ratio of the number of wheels to the number of cars is 4 to _____.

We write it as 4 : _____.

4 : 1 is not the same as 1 : 4.
The order of the numbers in a ratio is important.



We use a ratio to compare two quantities.
The ratio shows a relationship between two quantities.

Learn Together

1. Alexis is studying aviation. She is trying to figure out how many wheels each plane needs to be able to land. Use a ratio to show the relationship between the number of wheels and the number of model planes.



There are _____ wheels for every _____ plane.

The ratio of the number of wheels to the number of planes is _____ : _____.

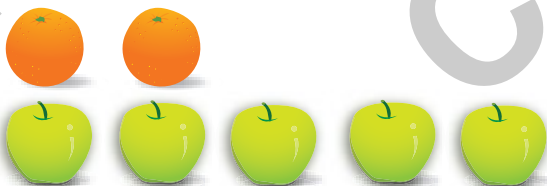
2. Each table has 3 chairs.



There is _____ table for every _____ chairs.

The ratio of the number of tables to the number of chairs is _____ : _____.

3. (a) There is some fruit.



The ratio of the number of apples to the number of oranges is _____.

- (b) Partition the bars to show the ratio.

oranges

apples

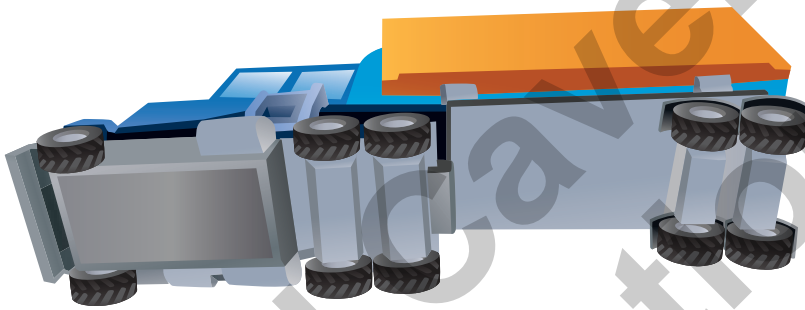
4. There are some beans in a bag. The ratio of the number of red beans to white beans is 4 : 3. Draw a bar model to show the ratio.



What does 3 : 4 mean?

Practice on Your Own

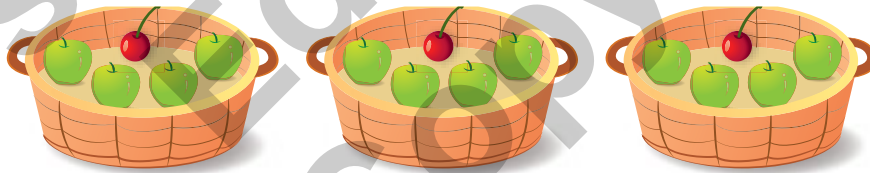
1. How many wheels are there for every tractor trailer?



There are _____ wheels for every _____ tractor trailer.

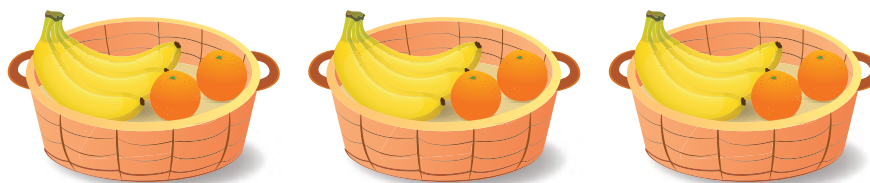
The ratio of the number of wheels to the number of tractor trailers is _____.

2. Write the ratios.



- (a) There is _____ cherry for every _____ apples.

The ratio of cherries to apples is _____.

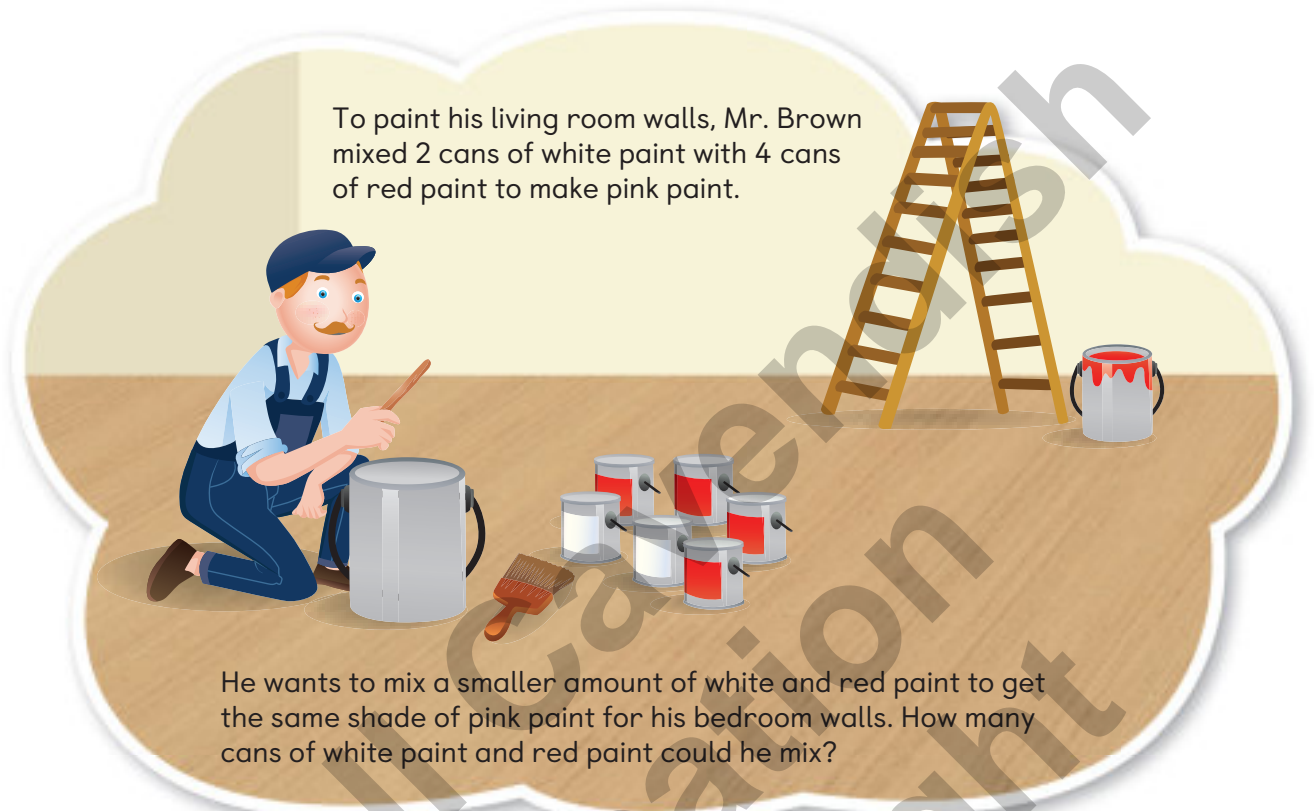


- (b) There are _____ bananas for every _____ oranges.

The ratio of bananas to oranges is _____.

4B Equivalent Ratios

To paint his living room walls, Mr. Brown mixed 2 cans of white paint with 4 cans of red paint to make pink paint.



He wants to mix a smaller amount of white and red paint to get the same shade of pink paint for his bedroom walls. How many cans of white paint and red paint could he mix?

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To get pink paint, Mr. Brown mixed white paint and red paint in the ratio 2 : _____.



2 cans of white paint for every 4 cans of red paint.

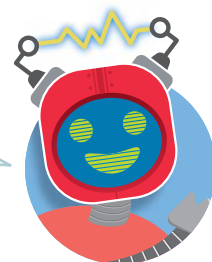
1 can of white paint for every _____ cans of red paint.

2 : _____ is the same as 1 : _____.

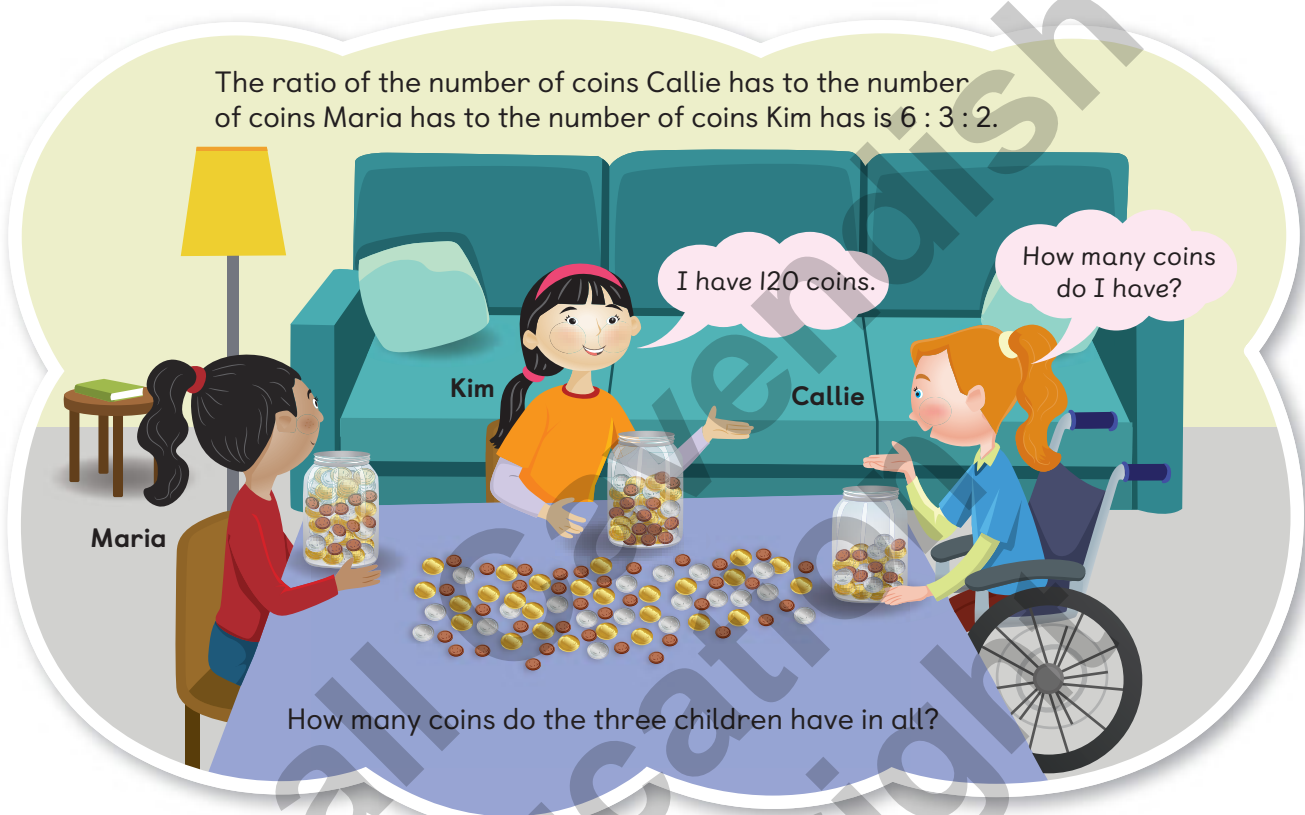
Mr. Brown could mix 1 can of white paint with 2 cans of red paint to get the same shade of pink.

2 : 4 and 1 : 2 are **equivalent ratios**.

The two numbers in the ratio 1 : 2 do not have a common factor. So, 1 : 2 is a ratio in **simplest form**.

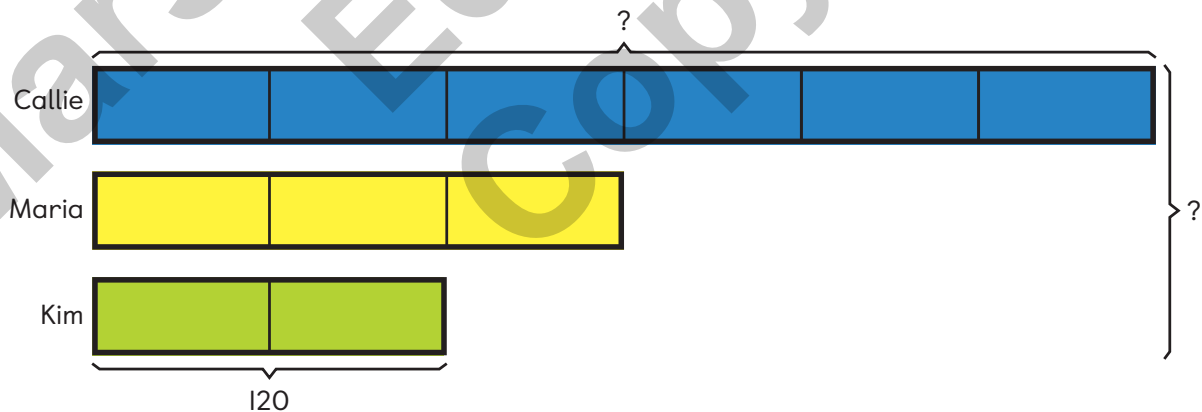


4E Real-World Problems: Ratios Involving Three Quantities



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Method 1



2 units = _____

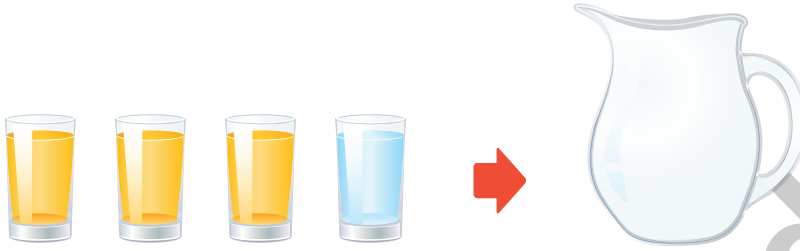
1 unit = _____ ÷ _____ = _____

6 units = _____ × _____ = _____

Callie has _____ coins.

Chapter Practice

1. A jug of orange drink is prepared by mixing 3 cups of orange syrup with every cup of water.



Which statement is true?

- (A) The ratio of orange syrup to water is 1 : 3.
- (B) The ratio of orange syrup to orange drink is 3 : 4.
- (C) The ratio of water to orange drink is 1 : 3.
- (D) The ratio of water to orange syrup is 1 : 4.

2. The ratio of the enrolments in three schools A, B, and C is 7 : 6 : 6.

- (a) Color the boxes to show the ratio.



- (b) School A has 200 more students than School B. How many students are there in School A?

- (c) What fraction of the total number of students is from School A?

3. Fill in the missing numbers.

(a) $18 : 14 = 9 : \underline{\hspace{2cm}}$ (b) $5 : 8 = \underline{\hspace{2cm}} : 24$ (c) $27 : 36 = \underline{\hspace{2cm}} : 4$