

# Grade 6 - Ratios and Ratio Language - Answer Key

Common Core 6.RP.A.1 · [maths-pdf.fr/en/](https://maths-pdf.fr/en/)

This **ratios practice solutions** for 6th Grade covers ratios and ratio language (Common Core 6.RP.A.1), with a free PDF to print.

Use this answer key to check each ratio problem. Every solution shows the order of the quantities, the common factor or scale factor, and the final answer in bold. Fix any mistake by comparing your steps with the worked solution.

**Grade 6** · Common Core State Standards: **6.RP.A.1**

## Ratios practice solutions: exercises 1 to 10

### Exercise 1 - Write a ratio

There are 3 red tiles and 5 blue tiles.

The ratio of red to blue is 3:5, or 3 to 5, or  $\frac{3}{5}$ .

3:5

### Exercise 2 - Three ways to write it

Cats come first, dogs second.

4:7, 4 to 7,  $\frac{4}{7}$

4:7

### Exercise 3 - Part to whole

Part to whole: boys to all students.

The ratio is 5:12.

5:12

### Exercise 4 - Order matters

(a) Girls to boys: 9:6.

(b) Boys to girls: 6:9.

The order of the numbers follows the order of the words.

**(a) 9:6; (b) 6:9**

### **Exercise 5 - Simplify a ratio**

The greatest common factor of 12 and 18 is 6.

$$12 \div 6 = 2 \text{ and } 18 \div 6 = 3.$$

$$2:3$$

### **Exercise 6 - Complete the equivalent ratio**

$3 \times 3 = 9$ , so multiply 4 by 3 as well.

$$4 \times 3 = 12$$

$$9:12$$

### **Exercise 7 - Fruit bowl**

Total fruit:  $8 + 5 = 13$ .

Apples to all fruit: 8:13.

$$8:13$$

### **Exercise 8 - Basketball shots**

Made to missed is 9:6.

Divide both numbers by 3: 3:2.

$$3:2$$

### **Exercise 9 - Simplify with larger numbers**

The greatest common factor is 12.

$$24 \div 12 = 2, 36 \div 12 = 3.$$

$$2:3$$

### **Exercise 10 - Same units**

1 hour = 60 minutes, so the ratio is 45:60.

Divide both by 15: 3:4.

$$3:4$$

## **Exercises 11 and up**

### **Exercise 11 - Three equivalent ratios**

Multiply both numbers by the same number.

$$3 \times 2 : 7 \times 2 = 6:14, 3 \times 3 : 7 \times 3 = 9:21, 3 \times 4 : 7 \times 4 = 12:28.$$

$$6:14, 9:21, 12:28$$

### **Exercise 12 - Shapes in a quilt**

The ratio is 6:9.

Divide both by 3.

$$2:3$$

### **Exercise 13 - Are they equivalent?**

6:9 simplifies to 2:3 (divide by 3).

8:12 simplifies to 2:3 (divide by 4).

Both simplify to 2:3.

**Yes, they are equivalent.**

### Exercise 14 - Not equivalent

4:6 simplifies to 2:3.

6:10 simplifies to 3:5.

2:3 is not 3:5.

**No, they are not equivalent.**

### Exercise 15 - Trail mix

$12 \div 3 = 4$ , so the recipe is made 4 times.

$$2 \times 4 = 8$$

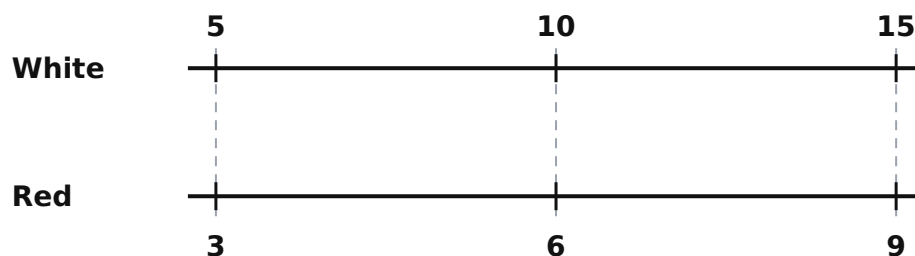
**8 cups of raisins**

### Exercise 16 - Mixing paint

$15 \div 5 = 3$ , so there are 3 batches.

$$3 \times 3 = 9$$

**9 cups of red paint**



Three batches: 15 cups of white goes with 9 cups of red.

### Exercise 17 - Little League record

Each group has  $3+2=5$  games.

$$20 \div 5 = 4 \text{ groups.}$$

$$\text{Wins: } 3 \times 4 = 12.$$

## 12 wins

|        |   |   |   |   |
|--------|---|---|---|---|
| Wins   | 3 | 3 | 3 | 3 |
| Losses | 2 | 2 | 2 | 2 |

Four groups of 3 wins and 2 losses make 20 games.

## Exercise 18 - Class ratio

Each group has  $4+5=9$  students.

$27 \div 9 = 3$  groups.

Boys:  $4 \times 3 = 12$ . Girls:  $5 \times 3 = 15$ .

Check:  $12+15=27$ .

## 12 boys and 15 girls

|       |   |   |   |   |   |
|-------|---|---|---|---|---|
| Boys  | 3 | 3 | 3 | 3 |   |
| Girls | 3 | 3 | 3 | 3 | 3 |

27 students in 9 groups of 3.

## Exercise 19 - Farmers market

Each group has  $5+3=8$  pieces.

$64 \div 8 = 8$  groups.

Apples:  $5 \times 8 = 40$ . Pears:  $3 \times 8 = 24$ .

## 40 apples and 24 pears

## Exercise 20 - Which lemonade is stronger?

A: lemon to water is  $3:6 = 1:2$ . That is 1 cup of lemon juice for every 2 cups of water.

B:  $4:12 = 1:3$  . That is 1 cup of lemon juice for every 3 cups of water.

A has more lemon juice for the same amount of water.

**Lemonade A is stronger.**

### Key facts behind this ratios practice solutions

#### Key facts

- A ratio compares two quantities and can be written  $a:b$ ,  $a$  to  $b$ , or  $a/b$ .
- Order matters: the first number matches the first quantity named.
- Ratios can compare part to part or part to whole.
- Multiply or divide both numbers by the same nonzero number to make equivalent ratios.
- A tape diagram splits a total into equal parts to solve ratio problems.

### How to use this ratios practice solutions

Cover each solution, solve the exercise again, then uncover it and compare every line. If your answer differs, find the first step that changed and redo the exercise from there.

Download the ratios practice solutions as a PDF with the button below and keep it with your notes.