MATHEMATICS · GRADES 7-9

Equivalent ratios

Difficulty level: Intermediate

Mathematics: Grades 7-9

This document was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

Overview of the concept

This is how you scale a comparison up or down while keeping it fair. Doubling a recipe keeps the flavours in the same proportion, and mixing the same paint colour in a bigger batch keeps the colour identical. The ratio stays the same even as the amounts grow. It is the maths behind every recipe, every paint mix, and every scale model.



Rule

Equivalent ratios: two ratios are equivalent when you multiply or divide both parts by the same number, and the comparison stays the same.

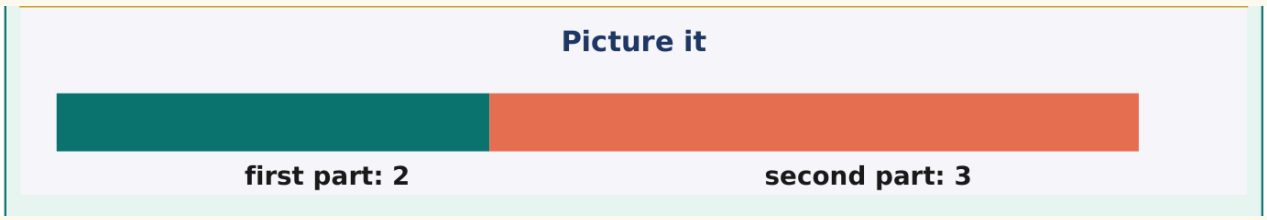
So 2:3 = 6:9 because both parts were multiplied by 3.

© 2026 Brett Robbins. All Rights Reserved.

Worked examples

EXAMPLE 1

Q Find the missing value 2:3 = 6:?



SOLUTION

This is an equivalent ratio question, so look at how the first part changed: 2 became 6, which is times 3.

Both parts have to change by the same amount, so 3 × 3 = 9.

So 2:3 = 6:9

EXAMPLE 2

Q Are the ratios 3:4 and 9:12 equivalent? Answer yes or no, and say why.

SOLUTION

To check equivalence, simplify both ratios to their lowest terms.

9:12 divides by 3 to give 3:4.

Both ratios are 3:4, so yes, they are equivalent.

© 2026 Brett Robbins. All Rights Reserved.

Practice questions

1 **Find the missing value 1:2 = 3:?**

Understand It with Pulse | Flag a mistake

2 **Find the missing value 4:6 = 2: ?**

Understand It with Pulse | Flag a mistake

3 **Find the missing value ?:12 = 1:3**

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

4

Simplify the ratio 18:24

A 2:3

B 9:12

C 3:4

D 4:3

Understand It with Pulse | Flag a mistake

5

Are the ratios 4:6 and 6:9 equivalent? Answer yes or no.

A Yes

B No

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

6 **Are the ratios 2:3 and 3:5 equivalent? Answer yes or no.**

A Yes

B No

Understand It with Pulse | Flag a mistake

7 **A recipe uses 2 cups of flour to 3 cups of sugar. How much sugar goes with 8 cups of flour?**

Understand It with Pulse | Flag a mistake

8 **A map uses the ratio 1:3. A distance of 4 cm on the map is how many cm in real life?**

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

9 A class has boys and girls in the ratio 2:5. If there are 10 girls, how many boys are there?

Understand It with Pulse | Flag a mistake

10 Complete the ratio table

3	6	9
4	8	?

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

ANSWER KEY

1. 6

2. 3

3. 4

4. 3:4

5. Yes

6. No

7. 12 cups

8. 12 cm

9. 4

10. 12

© 2026 Brett Robbins. All Rights Reserved.