MATHEMATICS · GRADES 7-9

Writing ratios

Difficulty level: Intermediate

Mathematics: Grades 7-9

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Overview of the concept

This is how you write a comparison between two quantities, like red paint to white paint in a mixture or boys to girls in a class, so the comparison is stated exactly. A ratio says how much of one thing there is for each amount of the other, and writing it down makes the comparison clear and exact. That exact form lets someone else mix the same paint, or compare two classes fairly, without guessing. That is how a comparison becomes a number you can use, instead of a vague sense of more or less.



Rule

Writing ratios: a ratio is written with the first quantity first, then the second, joined by a colon, and the order matters.

Write both quantities in the same units before comparing.

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Worked examples

EXAMPLE 1

Q There are 3 apples and 5 oranges in a basket. Write the ratio of apples to oranges, and the ratio of oranges to apples.

SOLUTION

This is a ratio question, so the one rule to remember is: the order of the numbers in the ratio is the order of the words in the question. Reading it backwards is the usual mistake.

Apples to oranges is 3 to 5, written 3:5.

Oranges to apples is 5 to 3, written 5:3, and it is not the same ratio.

EXAMPLE 2

Q Write the ratio 24:36 in its simplest form.

SOLUTION

This is the same question type with the ratio already written down: simplifying a ratio means dividing both parts by the same number, just like simplifying a fraction.

Both parts divide by 12: 24 ÷ 12 = 2 and 36 ÷ 12 = 3.

So 24:36 simplifies to 2:3.

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Practice questions

1 There are 16 apples and 24 pears. Write the ratio of apples to pears in its simplest form.

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2 In a class of 30 students, 18 are girls. Write the ratio of girls to the whole class in its simplest form.

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3 A recipe uses 900 g of flour and 1.2 kg of butter. Write the ratio of flour to butter in its simplest form.

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4 Write the ratio 4:16 in the form 1:n.

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5 Which ratio is in its simplest form?

A 6:9

B 4:7

C 10:15

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6 The ratio of students to teachers is 5:2. If there are 25 students, how many teachers are there?

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7 A model is 4 cm long and the real object is 100 cm long. What is the ratio of the model to the real object in its simplest form?

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8 Write the ratio 32:56 in its simplest form.

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9 Which ratio is equivalent to 2:3?

A 4:6

B 3:2

C 6:4

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10 **Two numbers are in the ratio 2:3 and their total is 25. What are the two numbers?**

- **A** 10 and 15
- **B** 5 and 20
- **C** 12 and 13

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ANSWER KEY

1. 2:3

2. 3:5

3. 3:4

4. 1:4

5. 4:7

6. 10

7. 1:25

8. 4:7

9. 4:6

10. 10 and 15

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