

Ratio and Proportion: Lesson Slides & Worksheet

Ages 11–14 · Maths

Name _____ Class _____ Date _____

A Key terms: match each term to its meaning

Write the letter of the correct meaning in the box next to each term.

- | | | | |
|---|-------------------|--------------------------|--|
| 1 | Ratio | ☐ | A The amount of one quantity for one unit of another, such as km per hour or price per kilogram. |
| 2 | Simplest form | ☐ | B A relationship where two quantities change by the same factor; $y = kx$ and the graph is a straight line through the origin. |
| 3 | Unit rate | ☐ | C A ratio whose parts are whole numbers with no common factor other than 1. |
| 4 | Direct proportion | ☐ | D The ratio of a length on a drawing or map to the real length, such as 1 : 25,000. |
| 5 | Unitary method | ☐ | E A comparison of the sizes of two or more quantities, written with colons, such as 3 : 2. |
| 6 | Scale | ☐ | F Solving a proportion problem by first finding the value of one unit, then multiplying. |

B Quick quiz

Circle the best answer, write its letter, then explain your choice in a few words.

- [illegible]

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Answer key for teachers · Ages 11–14 · Maths

A Key terms

1	Ratio	E	A comparison of the sizes of two or more quantities, written with colons, such as 3 : 2.
2	Simplest form	C	A ratio whose parts are whole numbers with no common factor other than 1.
3	Unit rate	A	The amount of one quantity for one unit of another, such as km per hour or price per kilogram.
4	Direct proportion	B	A relationship where two quantities change by the same factor; $y = kx$ and the graph is a straight line through the origin.
5	Unitary method	F	Solving a proportion problem by first finding the value of one unit, then multiplying.
6	Scale	D	The ratio of a length on a drawing or map to the real length, such as 1 : 25,000.

B Quick quiz

1 b) 3 : 4

The highest common factor of 18 and 24 is 6. Dividing both parts by 6 gives 3 : 4. The ratios 9 : 12 and 6 : 8 are equivalent but not fully simplified.

2 a) 7.2 litres

There are $2 + 3 = 5$ parts, so one part is $12 \div 5 = 2.4$ litres. White paint is 3 parts: $3 \times 2.4 = 7.2$ litres. Blue paint is the other 4.8 litres.

3 b) 10 pens for EUR 6.50

Find the cost of one pen. $4.20 \div 6 = \text{EUR } 0.70$ and $6.50 \div 10 = \text{EUR } 0.65$, so the pack of 10 is better value.

4 d) GBP 12.00

One metre costs $7.50 \div 5 = \text{GBP } 1.50$, so 8 m cost $8 \times 1.50 = \text{GBP } 12.00$. GBP 10.50 comes from adding 3 to the price instead of scaling it.

5 c) 3 km

$6 \text{ cm} \times 50,000 = 300,000 \text{ cm}$. There are 100 cm in a metre, so that is 3,000 m, which is 3 km.