

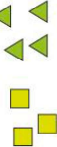
Check out

You should now be able to ...

✓ Simplify equivalent ratios.	5	1 - 3
✓ Divide an amount in a given ratio.	6	4, 5
✓ Use multipliers to solve ratio and proportion problems.	6	6
✓ Express an amount as a percentage of another amount.	6	7
✓ Compare simple proportions by converting to percentages.	6	8
✓ Solve problems involving direct proportion.	6	9
✓ Make financial decisions.	6	10

Test it

Questions

- Write the ratio of squares to triangles.

- Write each of these ratios in its simplest form.
 a 12 : 15
 b 40 : 60
 c 24 : 32
 d 28 : 42
- A farm has 54 cows and 27 sheep. What is the ratio of cows to sheep?
- Larry and Gary share apples in the ratio 5 : 6. If Larry gets 35 apples, how many does Gary get?
- Divide
 a £60 in the ratio 1 : 3
 b 40 kg in the ratio 3 : 5
 c 120 days in the ratio 1 : 5
 d 250 students in the ratio 7 : 3.
- Medication A cured 65 out of 100 patients and medication B cured 75 out of 150. Which is the most effective medicine?
 a What is the cost of 15 eggs?
 b What is the cost of 75 eggs?
- Convert these fractions into percentages.
 a $\frac{37}{100}$
 b $\frac{3}{10}$
 c $\frac{7}{20}$
 d $\frac{3}{4}$
 e $\frac{6}{15}$
 f $\frac{1}{2}$
 g $\frac{15}{75}$
 h $\frac{10}{10}$
- A recipe for one person requires 80 g of pasta. How much will be needed for six people?



Language Meaning Example

Ratio	Ratio compares the size of one part with the size of another part.	2 : 3 means for every two red beads there are three green beads.
Equivalent	Two things are equivalent if they have the same value.	$\frac{3}{5}$ and $\frac{12}{20}$ are equivalent fractions. 2 : 7 and 10 : 35 are equivalent ratios.
Proportional	Proportional relationships always keep to the same ratio.	Donna gets paid £9 per hour. The ratio of time worked to the amount earned is always 1 : 9, regardless of how many hours are worked.
Simplify	Means to write as simply as possible by dividing the numbers in a ratio by the highest common factor.	42 : 54 simplifies to 7 : 9. The highest common factor of 42 and 54 is 6, so divide them both by 6.
Unitary method	A method in which you find the value of one unit of a quantity to solve direct proportion problems.	The cost of 12 packets of crisps is £2.04. The cost of 1 packet = £2.04 ÷ 12 = £0.17 = 17p. You can now use the cost of one packet to find the cost of any number of packets of crisps.

What next?

0 - 4	Your knowledge of this topic is still developing. To improve look at Formative test: 3A-15; MyMaths: 1036, 1038, 1039, 1052 and 1245
5 - 8	You are gaining a secure knowledge of this topic. To improve look at InvisiPen: 162, 191, 192, 193 and 194
9 - 10	You have mastered this topic. Well done, you are ready to progress!