Year 6 Maths: Ratio

Key Knowledge

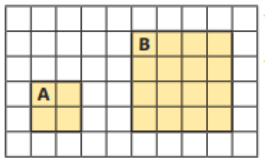
Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.

For every 1 rugby ball, there are 2 footballs. Ratio of rugby balls to footballs: 1:2. $\frac{1}{3}$ of the balls are rugby balls.
If there are 5 rugby balls, how many footballs are there? (multiply). If there are 6 footballs, how many rugby balls are there? (divide)

Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.

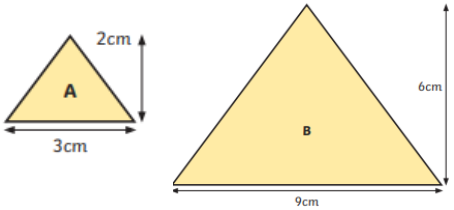
See table on the right.

Solve problems involving similar shapes where the scale factor is known or can be found.

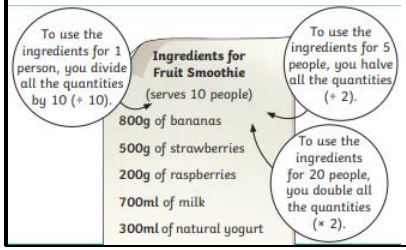


Shape A has been enlarged by a scale factor of 2 to make shape B.
Shape B is now two times as big as shape A.

Shape B has been enlarged from shape A by a scale factor of 3.
Shape B is now three times as big as A.



Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.



In a bag of 15 sweets, there is 1 smiley face sweet for every 4 love heart sweets. Therefore, there will be 3 smiley face sweets and 12 love heart sweets in the bag.

Key Vocabulary and definitions

ratio :	A way of comparing one quantity to another.
proportion	To adjust something is relation to something else.
scale factor	The amount an object/shape is enlarged or decreased by.
percentage	'out of one hundred'
quantity	An amount of something.
enlarge	To make or become bigger.

Percentage	Fraction	Division calculation	Multiplication calculation
1%	$\frac{1}{100}$	÷ 100	× 0.01
5%	$\frac{1}{20}$	÷ 20	× 0.05
10%	$\frac{1}{10}$	÷ 10	× 0.1
20%	$\frac{1}{5}$	÷ 5	× 0.2
25%	$\frac{1}{4}$	÷ 4	× 0.25
50%	$\frac{1}{2}$	÷ 2	× 0.5
75%	$\frac{3}{4}$	÷ 4, x3	× 0.75
100%	1	÷ 1	× 1