

Year 6 – Maths – Ratio

Key vocabulary

ratio

proportion

"for every... there are..."

part

whole

scale factor

enlargement

similar shapes

length

width

perimeter

Ratio Language

For every 1 circle, there are 2 triangles.



For every 2 bananas, there are 3 apples.



For every 1 football, there are 3 rugby balls.



Ratio and Fractions



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.



For every 1 triangle, there are 3 squares.

Ratio of triangles to squares: 1:3

$\frac{1}{4}$ of the shapes are triangles.

The Ratio Symbol



The ratio of footballs to rugby balls: 1:4

The ratio of rugby balls to footballs: 4:1



The ratio of circles to triangles: 2:3

The ratio of triangles to circles: 3:2



The ratio of apples to bananas: 1:2

The ratio of bananas to oranges: 2:3

The ratio of apples to bananas to oranges: 1:2:3

The ratio of oranges to bananas to apples: 3:2:1

Ratio, proportion and scale factors

To use the ingredients for 1 person, you divide all the quantities by 10 ($\div 10$).

Ingredients for Fruit Smoothie (serves 10 people)

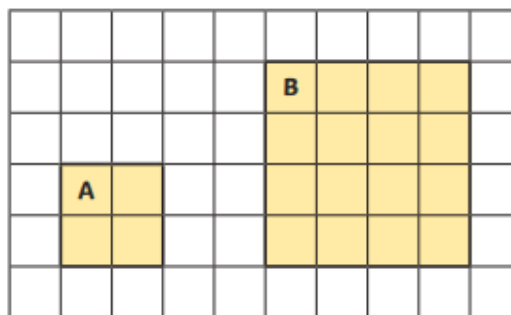
800g of bananas
500g of strawberries
200g of raspberries
700ml of milk
300ml of natural yogurt

To use the ingredients for 5 people, you halve all the quantities ($\div 2$).

To use the ingredients for 20 people, you double all the quantities ($\times 2$).

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.

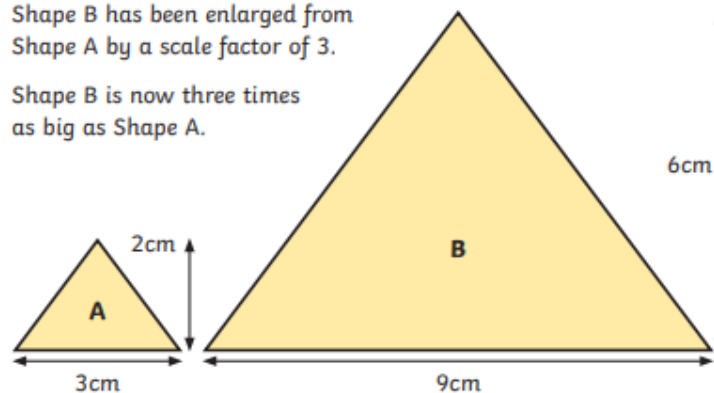


Shape A has been enlarged by a scale factor of 2 to make Shape B.

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 Shape A.



Key questions

Can you define ratio?

Can you think of an example where ratio would be of value to use?

Look at shape B on the grid. If its sides were 12 by 12, what scale has it been enlarged by?