

Ratio – Language, Symbols and Fractions



blue : pink  
1 : 2

The ratio of blue flowers to pink flowers is 1 : 2

For every blue flower there are 2 pink flowers

$\frac{1}{3}$  of the flowers are blue  $\frac{2}{3}$  are pink



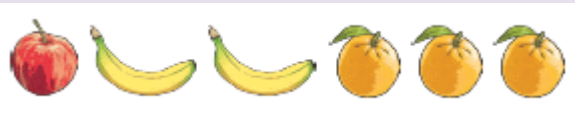
football : rugby  
1 : 4

The ratio of footballs to rugby balls is 1 : 4

The ratio of rugby balls to footballs is 4 : 1

For every football there are 4 rugby balls

$\frac{1}{5}$  are footballs  $\frac{4}{5}$  are rugby balls



apples : bananas : oranges  
1 : 2 : 3

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

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



circle : triangle  
1 : 3

If there are 4 circles, how many triangles are there?

circle : triangle  
 $x4 \left( \begin{matrix} 1 & : & 3 \\ 4 & : & 12 \end{matrix} \right) x4$

If there are 18 triangles, how many circles are there?

circle : triangle  
 $\left( \begin{matrix} 1 & : & 3 \\ 6 & : & 18 \end{matrix} \right) x6$

Vocabulary

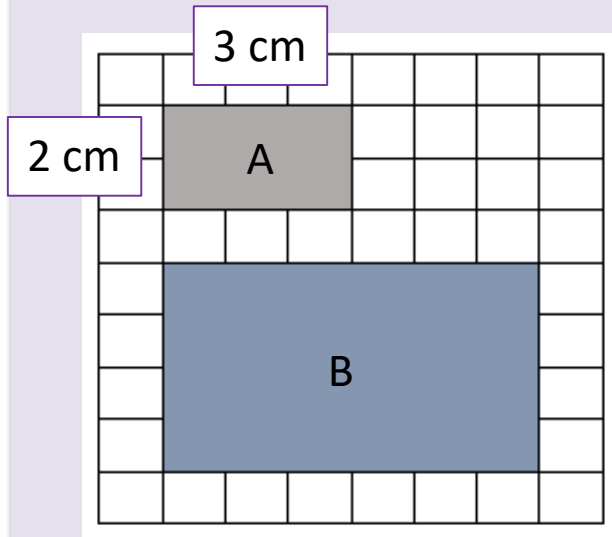
<b>ratio</b>	How much there is of one thing compared to another thing
<b>proportion</b>	Proportion says that two ratios or fractions are equal
<b>scale factor</b>	The enlargement of a quantity is determined by its scale factor. A scale factor of 3 means 3 times as large
<b>enlarge</b>	To make bigger
<b>similar</b>	One shape is an exact enlargement of another

$\frac{1}{6}$  are apples

$\frac{2}{6}$  are bananas

$\frac{3}{6}$  are oranges

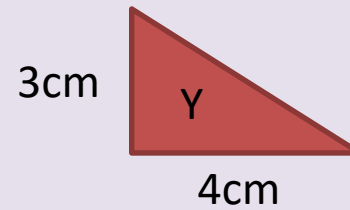
## Scale Factors



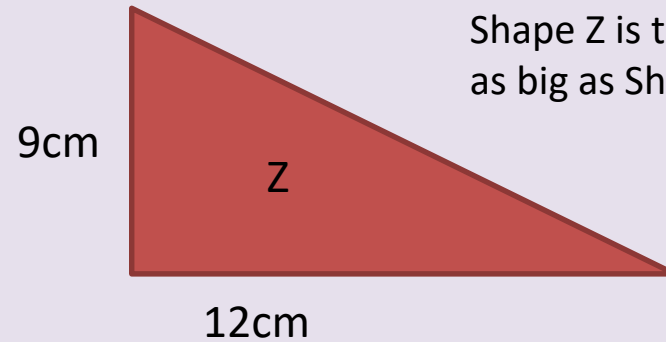
Not drawn to scale

Shape A has been enlarged by a scale factor of 2

Shape B is two times (twice) as big as Shape A



Shape Y has been enlarged by a scale factor of 3



Shape Z is three times as big as Shape Y

## Ration and Proportion - Links to Multiplication and Division

To make 12 biscuits, double the amounts for 6 biscuits

**Chocolate chip biscuits (makes 6)**

120 g butter

72 g sugar

180 g plain flour

60 g chocolate chips

To make 3 biscuits, halve the amounts for 6 biscuits

Divide the amounts by 6 for 1 biscuit