Ratio – Language, Symbols and Fractions

Vocabulary

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

blue : pink

1 : 2

For every blue flower there are 2 pink flowers

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

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

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football : rugby

1 : 4

For every football there are 4 rugby balls

The ratio of footballs to rugby balls is 1 : 4

The ratio of rugby balls to footballs is 4 : 1

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

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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

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

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

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

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circle : triangle

1 : 3

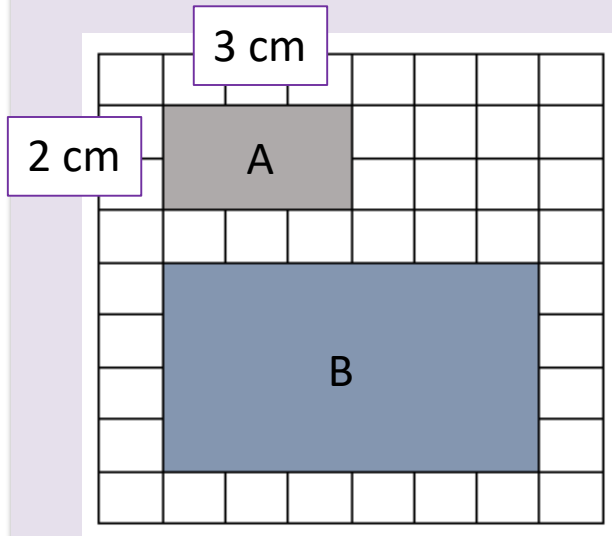If there are 4 circles, how many triangles are there?

circle : triangle

x4 $\left(\begin{array}{ccc} 1 & : & 3 \\ 4 & : & 12 \end{array} \right)$ x4

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

circle : triangle

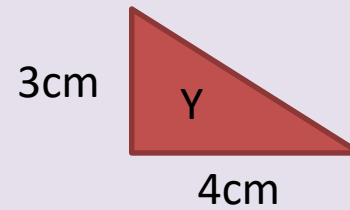$\left. \begin{array}{ccc} 1 & : & 3 \\ 6 & : & 18 \end{array} \right)$ x6

Scale Factors

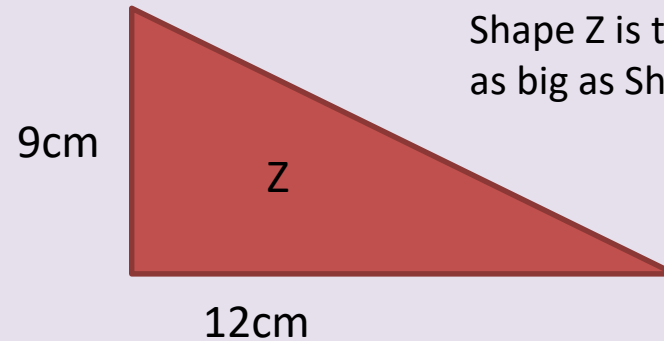Not drawn to scale

3 cm

2 cm

A

B

Shape A has been enlarged by a scale factor of 2

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

3cm

Y

4cm

Shape Y has been enlarged by a scale factor of 3

9cm

Z

12cm

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