1. Write each ratio in its simplest form.

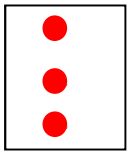
a 2 cm : 5 m	**b** 8 mm : 12 cm	
c 25 g : 3 kg	**d** 6 mm : 5 m	
e 4 mm : 1 km	**f** 15 kg : 2 tonnes	
g 125 g : 1 tonne	**h** 20 s : 5 min	**i** 5 s : 2 hours
j 150 mm : 15 km	**k** 10 min : 3 days	**l** 40 ml : 10 litres

Remember to change the quantities into the same units first.

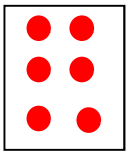
<u>Sharing in a given ratio</u>

2) Dawn and Jane share 9 sweets in the ratio 1:2. Draw how many each gets in the boxes:

Dawn



Jane

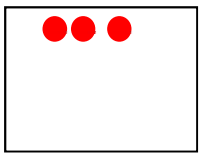


Total for Dawn:___3_____

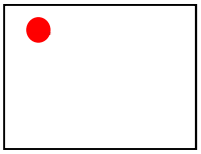
Total for Jane: ___6_____

3) Eric and Mark share 21 sweets in the ratio 3:4. Draw how many each gets in the boxes:

Eric



Mark



Total for Eric:_____

Total for Mark: _____

4) Jenny and Sharon share 14 toffees in the ratio 2:5. Draw how many each gets in the boxes:

Jenny

Sharon

Total for Jenny:_____

Total for Sharon: _____

5) Mike and Neil share 16 mints in the ratio 1:3. Draw how many each gets in the boxes:

Mike

Neil

Total for Mike:_____

Total for Neil: _____

6) Share £12 in the ratio of 1:3

How many parts in total?

How much is each part worth?_____

How much is each share? _____

7) Share £30 in the ratio of 4:6

How many parts in total?

How much is each part worth?_____

How much is each share? _____

8) Share £25 in the ratio of 4:1
How many parts in total? _____

9) Share £16 in the ratio of 5:3

10) Share £33 in the ratio of 7:4

11)

Blue, white and yellow paint is mixed in the ratio 3 : 20 : 2.
The paint is sold in 5 litre containers.

Calculate the volume of each colour paint in the container.

a White paint **b** Blue paint **c** Yellow paint

Fruit juice is made from mango, orange, apple and grape juice in the ratio 4 : 8 : 3 : 1. The juice is sold in 1 litre cartons.

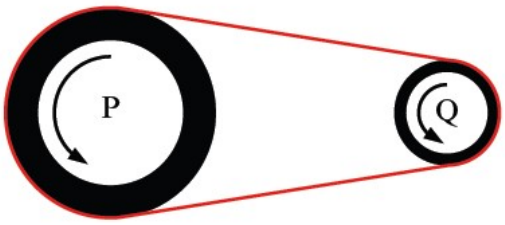
a Calculate the amount of mango juice in a carton.

b Calculate the amount of apple juice in a carton.

c A promotional carton is produced with 25% extra free.
Calculate the amount of grape juice in a promotional carton.

12)

P and Q are two chain wheels.
For every 2 complete rotations that wheel P makes, wheel Q makes 7.



a Calculate the number of rotations made by wheel Q when wheel P makes 250 rotations.

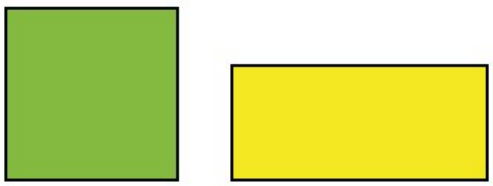
b Calculate the number of rotations made by wheel P when wheel Q makes 497 rotations.

c If the combined number of rotations is 1620, calculate the number of rotations made by each wheel.

13)

A square has the same area as a rectangle.

The sides of the rectangle are in the ratio 9 : 4.
The perimeter of the rectangle is 130 cm.



a Calculate the lengths of the sides of the rectangle.

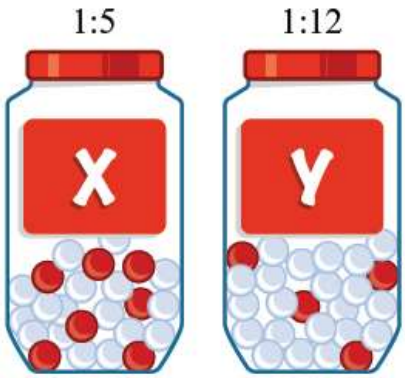
b Calculate the area of the rectangle.

c Calculate the side length of the square.

d Write down the ratio of the perimeters of the two shapes in the form perimeter of square : perimeter of rectangle.
Give your answer in its simplest form.

Think task

Two jars contain sweets. Jar X has red and white sweets in the ratio 1 : 5, and jar Y has red and white sweets in the ratio 1 : 12.



The two jars are then mixed together. Find the smallest number of sweets that could have been in each jar if the red and white sweets are now in these ratios.

a 1 : 6 **b** 1 : 7 **c** 1 : 8 **d** 1 : 9 **e** 1 : 10 **f** 1 : 4