

Lesson 4- Ratio

What do you need?

Pen, Paper and a
calculator! 😊

Blue Zone



Going slow

E.g. sad, sick, tired,
bored

Green Zone



Good to go

E.g. happy, calm,
focused, ok

Yellow Zone



Caution

Starting to lose control

E.g. worried, excited,
annoyed

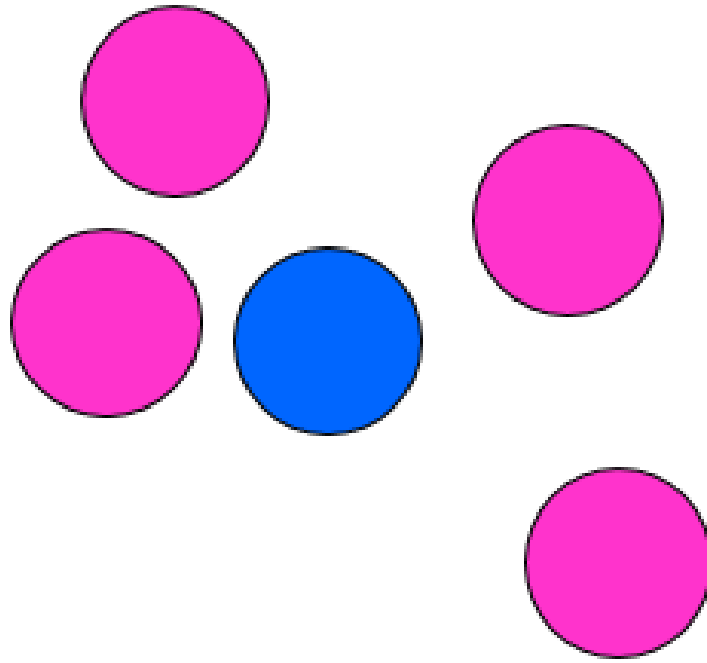
Red Zone



Stop!

Out of control

E.g. angry, terrified,
elated

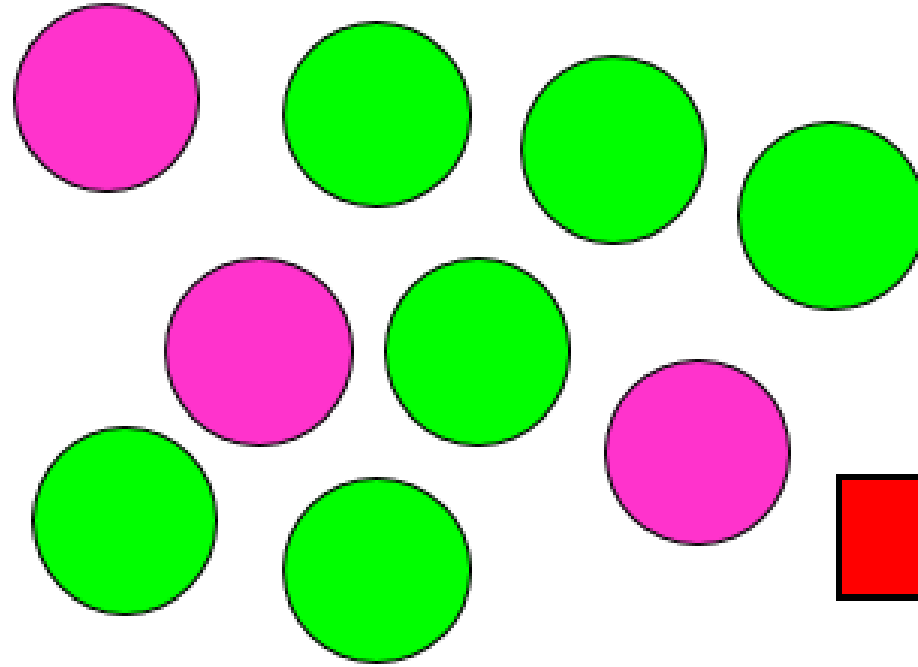


1:4

What is the
ratio of Pink to
Blue circles?

4:1

1/4

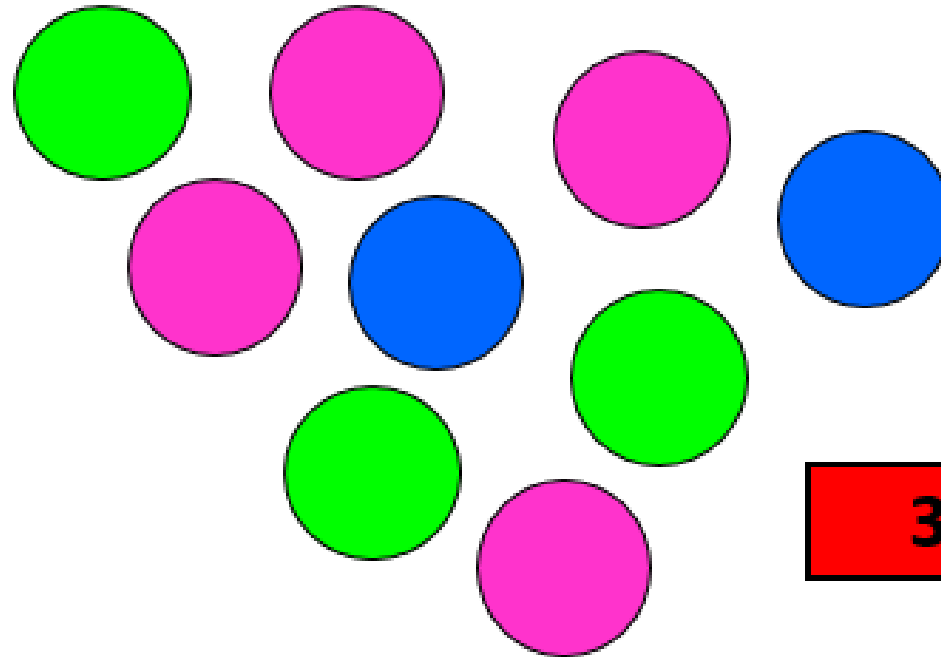


2:1

What is the
ratio of *Green*
to *Pink* circles?

3:6

3 in 6

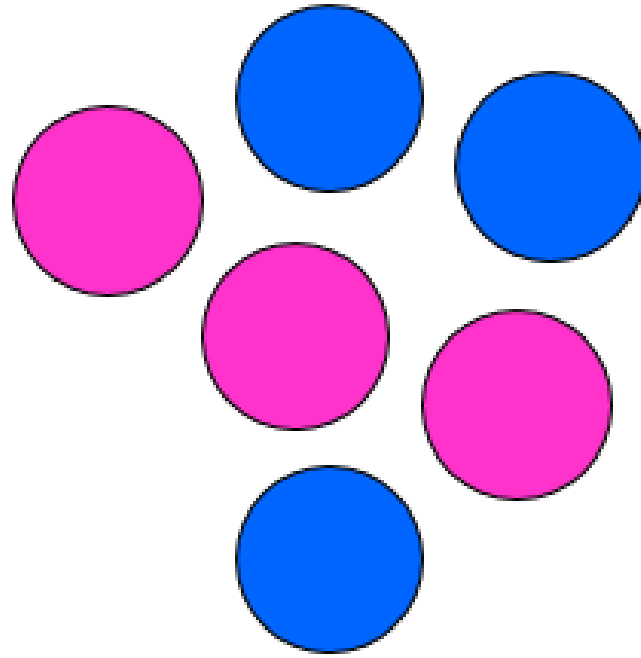


3:2:4

3:4:2

4:3:2

What is the
ratio of Green
to Blue to Pink
circles?



3 to 3

What is the
ratio of Blue
to Pink
circles?

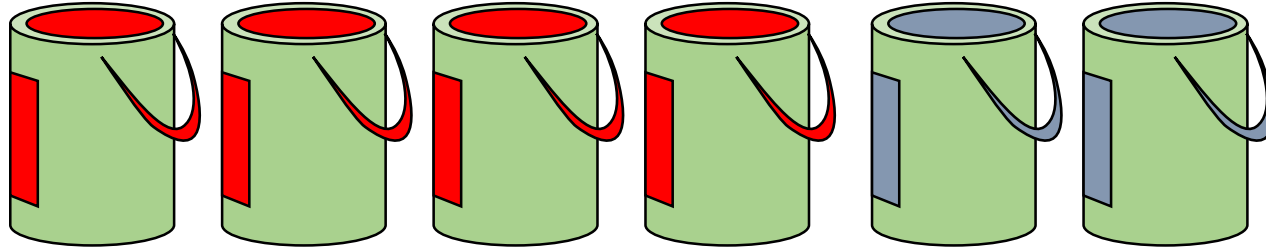
3:3

1:1

Ratios

Visual Example 1:

Ben the painter needs 6 litres of dark purple, he uses 4 litres of red paint and 2 litres of blue paint.



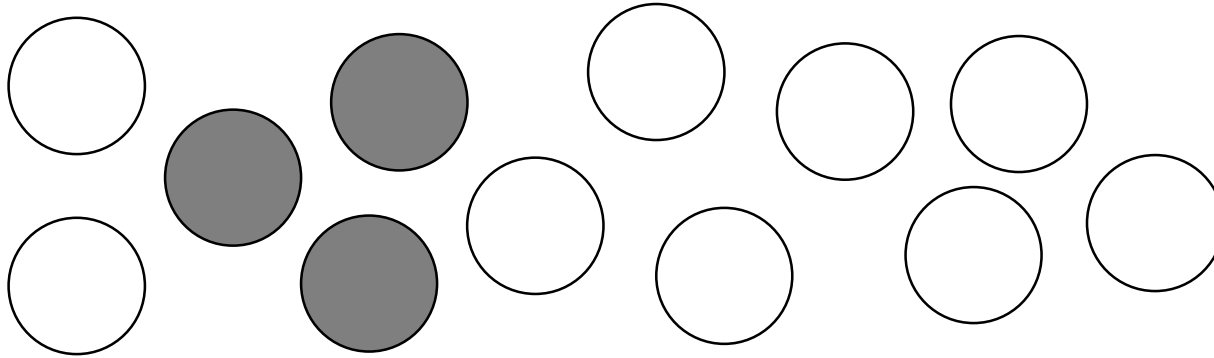
Write the ratio of the number of red tins to the number of blue tins in its simplest form.

$$\begin{array}{ccc} & \text{Red : Blue} & \\ & 4 : 2 & \\ \div 2 \swarrow & & \searrow \div 2 \\ & 2 : 1 & \end{array}$$

Ratios

Visual Example 2:

Sarah has a number of white and black counters in a bag..



Write the ratio of the number of black counters to the number of white counters in its simplest form.

Black : White

$$\begin{array}{ccc} & 3 : 9 & \\ \div 3 \swarrow & & \searrow \div 3 \\ & 1 : 3 & \end{array}$$

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Examples:

Ratios

E.g. 1

Simplify 25 : 30

$$\begin{array}{ccc} \div 5 & \begin{array}{c} \curvearrowright 25 : 30 \curvearrowleft \\ \curvearrowright 5 : 6 \curvearrowleft \end{array} & \div 5 \end{array}$$

E.g. 2

Simplify 48 : 32

$$\begin{array}{ccc} \div 8 & \begin{array}{c} \curvearrowright 48 : 32 \curvearrowleft \\ \curvearrowright 6 : 4 \curvearrowleft \end{array} & \div 8 \\ \div 2 & \begin{array}{c} \curvearrowright 3 : 2 \curvearrowleft \end{array} & \div 2 \end{array}$$

This can be done in one step by dividing by 16

E.g. 3

Simplify 75p : £1.25

$$\begin{array}{ccc} & 75\text{p} : £1.25 & \\ \div 25\text{p} & \begin{array}{c} \curvearrowright 75\text{p} : 125\text{p} \curvearrowleft \\ \curvearrowright 3 : 5 \curvearrowleft \end{array} & \div 25\text{p} \end{array}$$

Change to the same units before simplifying and drop the units

Ratios

Exercise One:

1

Simplify the following expressions

a

 $6 : 21$ $2 : 7$

b

 $18 : 27$ $2 : 3$

c

 $14 : 56$ $1 : 4$

d

 $108 : 144$ $3 : 4$

e

 $35 : 56 : 49$ $5 : 8 : 7$

2

Simplify the following expressions by converting the units

a

 $4\text{cm} : 20\text{mm}$ $4 : 2$

b

 $60\text{cm} : 1.20\text{m}$ $1 : 2$

c

 $3\text{kg} : 1200\text{g}$ $5 : 2$

d

 $2\text{hrs} : 80\text{ mins}$ $3 : 2$

3

125 men and 150 women are at a wedding. Write this as a ratio of men to women in its simplest form.

 $3 : 2$

4

A painter mixes 65L of red and 15L of blue paint to get Purple. Write this as a ratio of red to blue in its simplest form.

 $13 : 3$

5

A model of a plane is 30cm. The real plane is 10m. Write this as a ratio of model to real life in its simplest form.

 $3 : 100$

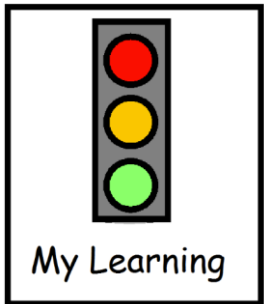
6

A recipe contains 0.5 kg of sugar and 40g of butter. Write this as a ratio of **Butter to Sugar** in its simplest form. $50 : 4$

Don't Forget!!!

There is work to check your understanding and help you practice on the school website!

You can do this on any piece of paper – just make sure you ask an adult at home to send me your answers so I can mark them 😊



Traffic light your work today.

Thumbs down- I don't understand it

Thumbs across- I understand some of it

Thumbs up- I understand all of it