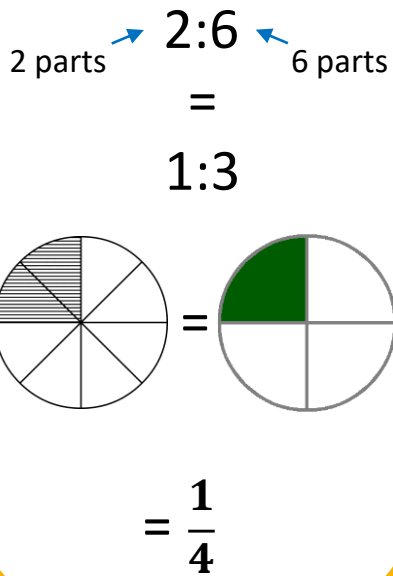


Year 8 Knowledge Organiser

RATIO

Key Concept



Key Words

Ratio: Relationship between two numbers.

Part: This is the numeric value '1' of, would be equivalent to.

Simplify: Divide both parts of a ratio by the same number.

Equivalent: Equal in value.

Convert: Change from one form to another.

Examples

Simplify $60 : 40 : 100$

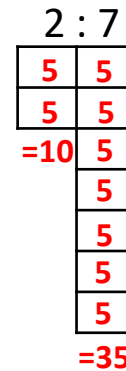
$$\begin{array}{l} \div 10 \\ 6 : 4 : 10 \\ \div 2 \\ 3 : 2 : 5 \end{array}$$

This could have been done in one step by dividing by 20.

Share £45 in the ratio $2 : 7$

$$45 \div 9 = 5$$

£10 : £35

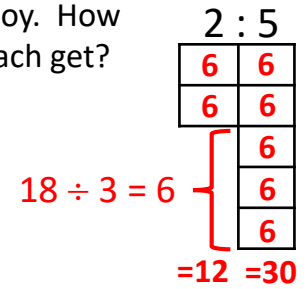


Write $2 : 5$ in the form $1 : n$

$$\begin{array}{l} 2 : 5 \\ \div 2 \quad \quad \quad \div 2 \\ 1 : 2.5 \end{array}$$

Joy and Martin share money in the ratio $2 : 5$. Martin gets £18 more than Joy. How much do they each get?

£12 : £30



Clip Numbers

328 – 335

Tip

Its often useful to write the letters above the ratio. This helps you keep the order the correct way round.

Questions

- Simplify a) $45 : 63$ b) $66 : 44$ c) $320 : 440$
- Write in the form $1 : n$ a) $5 : 10$ b) $4 : 6$ c) $x : x^2 + x$
- Share 64 in the ratio $3 : 5$ 4) Write the ratio $1 : 4$ as a fraction.

ANSWERS: 1) a) 5 : 7 b) 3 : 2 c) $8 : 11$ 2) a) $1 : 2$ b) $1 : 1.5$ c) $1 : x + 1$ 3) $24 : 40$ 4) $\frac{1}{5}$

Year 8 Knowledge Organiser

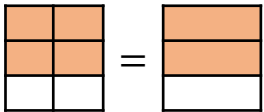
PROPORTION

Key Concept

Proportion states that two fractions or ratios are equivalent.

$$\frac{4}{6} = \frac{2}{3}$$

$$4:2 = 2:1$$



Key Words

Ratio: Relationship between two numbers.

Scale: The ratio of the length in a drawing to the length of the real thing.

Proportion: A name we give to a statement that two ratios are equal.

Exchange rate: The value of one currency for the purpose of conversion to another.

Examples

Write 2:5 in the form 1:n

$$\begin{array}{c} 2:5 \\ \div 2 \quad \quad \quad \div 2 \\ \curvearrowright \quad \quad \quad \curvearrowleft \\ 1:2.5 \end{array}$$

a:b = 4:5 and b:c = 6:7

Find a:b:c.

$$\begin{array}{c} a : b : c \\ 4 : 5 \\ \times 6 \quad \quad \quad \times 5 \\ 24 : 30 : 35 \end{array}$$

The LCM of 5 and 6 is 30

Cake recipe for 6 people.

3 eggs

300g flour

150g sugar

What would you need for 8 people?

	6	2	8
eggs	3	1	4
flour	300g	100g	400g
sugar	150g	50g	200g

331 340 707

708, 839-842,
864-871

Tip

Working with ratio or proportion requires multiplying or dividing the numbers. Do not add or subtract.

Questions

- Write in the form 1:n a) 4:8 b) 3:12 c) 4:6
- a:b = 3:10 and b:c = 4:12. Find a:b:c.
- Pancakes for 4 people need 2 eggs, 120g flour and 60ml milk. How much for 6 people?

ANSWERS: 1) a) 1:2 b) 1:4 c) 1:1.5 2) 12:40:120 3) 3 eggs, 180g flour, 90 ml milk.