

Combining Ratios

Ex1 Suppose $A : B = 2 : 5$ and $B : C = 3 : 4$
Find in its simplest form the ratio $A : B : C$

$$A : B : C$$

$$2 : 5$$

$$3 : 4$$

$$6 : 15$$

$$15 : 20$$

$$6 : 15 : 20$$

Ex2 $A : B = 2 : 3$
 $B : C = 4 : 7$
 $C : D = 1 : 2$
Find $A : B : C : D$

$$A : B : C : D$$

$$2 : 3$$

$$4 : 7$$

$$1 : 2$$

$$\textcircled{1} \times 4 \quad 8 : 12$$

$$\textcircled{2} \times 3 \quad 12 : 21$$

$$8 : 12 : 21$$

$$\textcircled{3} \times 21 \quad 21 : 42$$

$$8 : 12 : 21 : 42$$

Q1.

Anna and Bill share some money in the ratio 2 : 5

Anna gets £A

Bill gets £B

Carl and Donna share twice as much money as Anna and Bill share.

They share the money in the ratio 3 : 1

Carl gets £C

Donna gets £D

Find $A : B : C : D$

Give your answer in its simplest form.

$$A : B : C : D$$

$$2 : 5$$

$$3 : 1$$

7 parts

4 parts

$$\textcircled{1} \times 2$$

$$4 : 10$$

$$21 : 7$$

$$\textcircled{2} \times 7$$

$$4 : 10 : 21 : 7$$

Q3.

On a farm

the number of cows and the number of sheep are in the ratio 6 : 5

the number of sheep and the number of pigs are in the ratio 2 : 1

The total number of cows, sheep and pigs on the farm is 189

How many sheep are there on the farm?

$$C : S : P$$

$$6 : 5$$

$$2 : 1$$

$$\textcircled{1} \times 2$$

$$12 : 10$$

$$10 : 5$$

$$\textcircled{2} \times 5$$

$$12 : 10 : 5$$

$$12 + 10 + 5 = 27 \text{ parts}$$

$$189 = 27 \text{ parts}$$

$$\frac{189}{27} = 1 \text{ part}$$

$$7 = 1 \text{ part}$$

$$\text{Sheep } 10 \times 7 = 70$$

Q13.

In a box of pens, there are

three times as many red pens as green pens
and two times as many green pens as blue pens.

For the pens in the box, write down
the ratio of the number of red pens to the number of green pens to the number of blue pens.

R : G : B

3 : 1

2 : 1

6 : 2

6 : 2 : 1

Q15.

Given that

$$a : b = 8 : 5 \quad \text{and} \quad b : c = 3 : 4$$

find the ratio

$$a : b : c$$

Give your answer in its simplest form.

$$a : b : c$$

$$8 : 5$$

$$3 : 4$$

$$\textcircled{1} \times 3$$

$$24 : 15$$

$$\textcircled{2} \times 5$$

$$15 : 20$$

$$24 : 15 : 20$$
