

A piece of wood is 180cm long.

Tom cuts it into three pieces in the ratio 2 : 3 : 4

Work out the length of the longest piece.

Number of parts $2+3+4=9$

Each part $180 \div 9 = 20$

$$\begin{array}{ccc} 2 & : & 3 & : & 4 \\ \times 20 & & \times 20 & & \times 20 \\ 40 & : & 60 & : & 80 \end{array}$$

The longest piece is 80cm

(3)

Sylvie shares £45 between Ann, Bob and Cath in the ratio
3 : 2 : 4

Work out the amount each person gets.

$$3 + 2 + 4 = 9 \text{ parts}$$

$$£45 \div 9 = £5$$

$$\begin{array}{ccc}
 \text{Ann} & : & \text{Bob} : \text{Cath} \\
 3 & : & 2 : 4 \\
 \swarrow & & \downarrow \quad \searrow \\
 \times 5 & & \times 5 \quad \times 5 \\
 = 15 & & = 10 \quad = 20
 \end{array}$$

Ann	15
Bob	10
Cath	20

(3)

Read the
question properly...

A box contains milk chocolates and dark chocolates only.

The number of milk chocolates to the number of dark chocolates is in the ratio 2 : 1

There are 24 milk chocolates.

Work out the total number of chocolates.

$$\begin{array}{l} \text{milk : dark} \\ 2 : 1 \\ 24 : ? \end{array}$$

$$\text{so } 24 \div 2 = 12$$

$$\begin{array}{l} \text{The total number of} \\ \text{chocolates} = 24 + 12 \\ = 36 \end{array}$$

(2)

A school's mathematics department spend money on books, photocopying and computer software in the ratio 3 : 5 : 6. The department spends £1200 on photocopying.

Find the total expenditure.

$$\begin{array}{ccc} \text{Books} & : & \text{Photocopying} & : & \text{Software} \\ 3 & : & 5 & : & 6 \\ & & \text{£1200} & & \end{array}$$

$$\begin{aligned} \text{so 1 part} &= \text{£1200} \div 5 \\ &= \text{£240} \end{aligned}$$

$$\begin{aligned} 3 \times \text{£240} \\ = 720 \end{aligned}$$

$$\begin{aligned} 6 \times \text{£240} \\ = \text{£1440} \end{aligned}$$

$$\text{Total spend} = \underline{\underline{\text{£3360}}}$$

$$\begin{array}{r} 1200 \\ 720 \\ 1440 \\ \hline 3360 \end{array}$$

*This is simpler than it appears
at first.*

Jim has only 5p coins and 10p coins.

The ratio of the number of 5p coins to the number of 10p coins is 2 : 3

Work out the ratio of

the total value of 5p coins : the total value of 10p coins

Give your answer in its simplest form.

Ratio of NUMBER 5p coins : 10p coins₍₂₎
2 : 3

Ratio of VALUE

10p : 30p.

*this can be
simplified to 1:3*

This is just one method of solving this question.

Pat and Julie share some money in the ratio 2 : 5

Julie gets £45 more than Pat.

How much money did Pat get?

$$\begin{array}{cc}
 P : J & \\
 2 : 5 & \\
 \swarrow & \searrow \\
 \times 15 & \times 15 \\
 \hline
 £30 & £75
 \end{array}$$

Julie gets
£45 more and
has 3 parts more than
Pat so 1 part = £15

so Pat gets £30

(3)