

Combining Ratios

(a) Given that $A : B$ is $4 : 1$ and $B : C$ is $2 : 3$, find the ratio $A : B : C$ in its simplest form.

$$(a) \quad A : B : C \\ 8 : 2 : 3$$

(b) Given that $D : E$ is $5 : 2$ and $E : F$ is $1 : 3$, find the ratio $D : E : F$ in its simplest form.

$$(b) \quad D : E : F \\ 5 : 2 : 6$$

(c) Given that $K : L$ is $7 : 4$ and $L : M$ is $2 : 5$, find the ratio $K : L : M$ in its simplest form.

$$(c) \quad K : L : M \\ 7 : 4 : 10$$

(d) Given that $A : B$ is $7 : 2$ and $B : C$ is $6 : 5$, find the ratio $A : C$ in its simplest form.

$$(d) \quad A : C \\ 21 : 5$$

(e) Given that $D : E$ is $7 : 2$ and $E : F$ is $3 : 5$, find the ratio $D : F$ in its simplest form.

$$(e) \quad D : F \\ 21 : 10$$

(f) Given that $R : S$ is $9 : 4$ and $S : T$ is $5 : 3$, find the ratio $R : T$ in its simplest form.

$$(f) \quad R : T \\ 45 : 12 \\ 15 : 4$$

(g) There are three times as many red pens as green pens, and there are twice as many green pens as blue pens. Write down the ratio of red pens to green pens to blue pens.

$$(g) \quad R : G : B \\ 6 : 2 : 1$$

(h) The ratio of cows to sheep is $9 : 5$. The ratio of cows to pigs is $3 : 1$. Find the ratio of sheep to pigs.

$$(h) \quad S : P \\ 5 : 3$$

(i) The ratio of circles to squares is $4 : 3$. The ratio of black circles to white circles is $5 : 3$. The ratio of black squares to white squares is $5 : 1$. Find the ratio of white squares to white circles.

$$(i) \quad WS : WC \\ 1 : 3$$

(j) The points A, B, C and D lie in order on a straight line.

$$AB : BD = 1 : 5 \quad AC : CD = 7 : 11$$

Work out $AB : BC : CD$

$$(j) \quad \begin{array}{cccc} A & B & C & D \\ \leftarrow 3 \rightarrow & \leftarrow 15 \rightarrow & & \\ \leftarrow 7 \rightarrow & \leftarrow 11 \rightarrow & & \end{array}$$
$$AB : BC : CD \\ 3 : 4 : 11$$