

Mixed ratio problems

- 1 The ratio of the angles in a quadrilateral is 1:2:4:5
Work out the size of the largest angle.

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- 2 The angles in a quadrilateral are a , b , c and d .

$a = 108^\circ$

$a:b = 4:5$

$c:d = 1:2$

Work out the sizes of angles b , c and d .

$b = \boxed{}^\circ \quad c = \boxed{}^\circ \quad d = \boxed{}^\circ$

- 3 80 students are in the school athletics team.
Each student competes in either a track event or a field event.
The ratio of boys to girls in the team is 3:2
 $\frac{11}{20}$ of the students compete in the track events.
The rest compete in a field event.
18 boys compete in a field event.

- a) How many boys are on the team?

- b) How many students compete in the track events?

- c) Complete the two-way table.

	Track		Total
Boys			
Total			

- d) A boy is selected at random from the team.
What is the probability that this boy competes in a track event?

- 4 2,850 people go out to buy lunch.

The ratio of adults to children who go out to buy lunch is 8:7
 $\frac{3}{5}$ of the people have a takeaway, and the rest eat in.
560 adults eat in.

- a) Draw and complete a two-way table for this information.

- b) What is the ratio of the number of children who eat in to the number of children who have a takeaway?

Give your answer in its simplest form.



- 5 On Saturday, some adults and some children went swimming.
- The ratio of the number of adults to the number of children was 4 : 5
 - Each person swam either in the big pool or in the small pool.
 - $\frac{7}{10}$ of the children swam in the small pool.
 - 27 children swam in the big pool.
 - Only 200 people are allowed in total in the pools.

Show that more than 80% of the total number of people allowed in the pool attended on this Saturday.

- 6 At the cinema, the ratio of men to women is 4 : 7
The ratio of women to children is 3 : 5

a) Work out the ratio of men : women : children.

b) Tommy says, "More than half of the people in the cinema are children."
Show that Tommy is correct.



- 7 The ratio $x : y = 9 : 5$ and $7y = 2z$.

a) Show that the ratio $y : z = 2 : 7$

b) What is the ratio $x : z$?

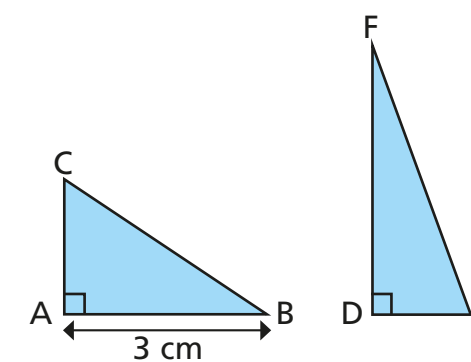
- 8 The ratio $x : y = 4 : 7$ and $3y = 5z$
What is the ratio $x : z$?

- 9 Triangles ABC and DEF are right-angled triangles.

$$AB : DE = 2 : 1$$

$$AC : DF = 1 : 2$$

$$AB : AC = 3 : 2$$



Show that triangles ABC and DEF are not similar.

