

Ratio Problems

For AQA GCSE Mathematics (8300) • Foundation tier

Name _____

Total marks: **20**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

- 1** The trees in an orchard are apple trees or cherry trees in the ratio
apple : cherry = 4 : 5

What fraction of the trees are cherry trees?

Circle your answer.

[1 mark]

$\frac{4}{5}$

$\frac{5}{9}$

$\frac{4}{9}$

$\frac{5}{4}$

- 2** (a) A tennis player wins or loses matches in the ratio win : lose = 5 : 9
What fraction of the matches do they win?

[1 mark]

Answer _____

- (b) In a choir, $\frac{3}{8}$ of the singers are men.
The rest of the singers are women.
Write down the ratio men : women

[1 mark]

Answer _____

- 3 In a sale, the price of a jacket is 20% less than its original price.
Circle the ratio sale price : original price

[1 mark]

4 : 5

5 : 4

1 : 5

5 : 6

- 4 Two candles are lit at the same time.
Candle A is 24 cm tall and gets 1.5 cm shorter every hour.
Candle B is 18 cm tall and gets 0.5 cm shorter every hour.

After how many hours will the heights of candle A and candle B be in the ratio 1 : 2?

[3 marks]

Answer _____ hours

- 5 At a cinema, the ratio of adults to children watching a film is 7 : 4

Hana says,

‘There could be exactly 150 people watching the film.’

Is Hana correct? Tick a box.

Give a reason for your answer.

[2 marks]

☐ Yes

☐ No

- 6** Nell mixes blue paint and white paint in the ratio 1 : 4
Leon mixes blue paint and white paint in the ratio 1 : 6
Leon says,
‘My mix must have more white paint in it than Nell’s mix, because 6 is bigger than 4.’

Give an example to show that Leon might be wrong.

[1 mark]

- 7** $a:b = 2:3$ and $b:c = 4:5$
Work out $a:b:c$
Give your answer in its simplest form.

[2 marks]

Answer _____

- 8** A drink is made from apple juice and mango juice in the ratio
apple : mango = $n : 12$
25% of the drink is apple juice.
Work out the value of n .

[2 marks]

Answer $n =$ _____

- 9** A hiking club goes on a trip.
The cost of the trip is paid by the club and by the members in the ratio
club : members = 2 : 3
There are 25 members. Each member pays £36
Work out the total cost of the trip.

[3 marks]

Answer £ _____

- 10** Freya makes compost by mixing soil, sand and bark in the ratio
soil : sand : bark = 5 : 2 : 1
She has 60 litres of soil, 20 litres of sand and 20 litres of bark.
What is the greatest amount of compost she can make?

[3 marks]

Answer _____ litres