

Ratio Problems - Higher

For Pearson Edexcel GCSE Mathematics (1MA1) • Higher tier

Name _____

Total marks: **30**

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

- 1** In a car park there are only cars, vans and motorbikes.
 $\frac{3}{5}$ of the vehicles are cars.
The number of vans is two times the number of motorbikes.
Write down the ratio of the number of cars to the number of vans to the number of motorbikes.

.....
(2)

(Total for Question 1 is 2 marks)

- 2** A florist has only roses, tulips and lilies.
The numbers of roses, tulips and lilies are in the ratio 6:5:2
There are 12 more tulips than lilies.
Work out the number of roses.

.....
(3)

(Total for Question 2 is 3 marks)

- 3** There are only red, blue and green counters in a bag.
red : blue = 3:2 and blue : green = 4:5
There are 45 counters in the bag.
How many green counters are there?

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(3)

(Total for Question 3 is 3 marks)

- 4** Some sweets are shared between Kim and Lee in the ratio 3:5
Lee gives $\frac{1}{5}$ of his sweets to Kim.
What is the new ratio of Kim's sweets to Lee's sweets?

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(3)

(Total for Question 4 is 3 marks)

- 5** Ruth and Sanjay grow tomato plants.
The ratio of the number of Ruth's plants to the number of Sanjay's plants is 4:7
Sanjay gives Ruth 15 of his plants.
The ratio of the number of Ruth's plants to the number of Sanjay's plants is now 3:4
How many plants do Ruth and Sanjay have altogether?
You must show all your working.

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(4)

(Total for Question 5 is 4 marks)

- 6** Kit, Lou and Max share some marbles in the ratio 7:4:3
Kit then gives 10 of his marbles to Max.
Kit and Max now have the same number of marbles.
Work out the total number of marbles.

.....
(4)

(Total for Question 6 is 4 marks)

- 7** The ratio of the number of adults to the number of children at a party is 4:7
After 8 more adults arrive, the ratio is 4:5
How many children are at the party?

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(4)

(Total for Question 7 is 4 marks)

- 8** The ratio of Ann's weekly savings to Bo's weekly savings is 7:4
Both Ann and Bo increase their weekly savings by £6
The ratio of Ann's weekly savings to Bo's weekly savings is now 5:3
Work out Ann's and Bo's weekly savings before the increase.

Ann £ Bo £
(4)

(Total for Question 8 is 4 marks)

9 $\frac{a + 3b}{a - b} = 5$

Find the ratio $a:b$

.....

(3)

(Total for Question 9 is 3 marks)
