

Name: \_\_\_\_\_

# GCSE (1 – 9)

## Ratio Problems 2

### Instructions

- Use **black** ink or ball-point pen.
- Answer all questions.
- Answer the questions in the spaces provided  
– *there may be more space than you need.*
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out.**

### Information

- The marks for each question are shown in brackets  
– *use this as a guide as to how much time to spend on each question.*

### Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end

- 1** The ratio of dogs to cats is 5:3  
The ratio of fish to dogs is 6:1

Find the ratio of cats to fish.  
Give your answer in its simplest form.

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**(Total for question 1 is 2 marks)**

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- 2** Given that  $a:b = 4:5$  and  $b:c = 3:2$

Find the ratio  $a:b:c$   
Give your answer in its simplest form.

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**(Total for question 2 is 2 marks)**

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- 3** Alfie, Bertie and Charlie share £66.  
The amount Alfie and Bertie get is in the ratio 9:5  
The amount Bertie and Charlie get is in the ratio 2:1

How much does Alfie get?

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**(Total for question 3 is 3 marks)**

- 4** Dylan, Eli and Fabian share some sweets.  
The amount of sweets Dylan gets to the amount of sweets Eli gets is in the ratio 7:3  
The amount Dylan gets to the amount Fabian gets is in the ratio 4:5

Given Fabian gets 21 more sweets than Dylan.

Work out how many sweets Eli gets.

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**(Total for question 4 is 3 marks)**

5 Given that  $a:b = 3:7$  and  $a:c = 4:3$

Find the ratio  $a:b:c$

Give your answer in its simplest form.

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**(Total for question 5 is 2 marks)**

6 Given that  $a:c = 1:6$  and  $b:c = 2:5$

Find the ratio  $a:b:c$

Give your answer in its simplest form.

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**(Total for question 6 is 2 marks)**

- 7 There are red sweets, blue sweets and green sweets in a bag.  
The ratio of red sweets to sweets that are not red is 2:3  
The ratio of green sweets to sweets that are not green is 6:19

Work out the ratio of red sweets to blue sweets to green sweets.

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**(Total for question 7 is 3 marks)**

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- 8 A football team plays some games in a season. Each game was a win, a draw or a loss.

The ratio of the games the won to the games they did not win was 9:7  
The ratio of games they lost to games they did not lose was 1:7.

Given the team played less than 50 games, work out the highest amount of games they could have won.

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**(Total for question 8 is 2 marks)**

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

$$AB:BD = 2:5 \quad \text{and} \quad AC:CD = 4:7$$

Find  $AB:BC:CD$

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**(Total for question 9 is 3 marks)**

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

$$AB:BD = 3:5 \quad \text{and} \quad AC:CD = 5:6$$

Find  $AB:BC:CD$

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**(Total for question 10 is 3 marks)**

**11** Andy and Bruce share some sweets in the ratio 9:4.

Andy gets  $A$  sweets

Bruce gets  $B$  sweets

Carla and David share the same amount of sweets as Andy and Bruce.

They share their sweets in the ratio 5:2.

Carla gets  $C$  sweets

David gets  $D$  sweets

Find  $A:B:C:D$

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**(Total for question 11 is 3 marks)**

**12**  $A$  and  $B$  are in the ratio 5:1

$C$  and  $D$  are in the ratio 2:3

Given:  $A + B = 2(C + D)$

Find  $A:B:C:D$

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**(Total for question 12 is 3 marks)**

**13** Glen and Harper share some money in the ratio 5:2.

Glen gets £ $G$

Harper gets £ $H$

India and Jade share the same amount of money as Glen and Harper.

They share their money in the ratio 4:7.

India gets £ $I$

Jade gets £ $J$

Find  $G:H:I:J$

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**(Total for question 13 is 3 marks)**

**14**  $A$  and  $B$  are in the ratio 4:3

$C$  and  $D$  are in the ratio 1:5

Given:  $3(A + B) = C + D$

Find  $A:B:C:D$

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**(Total for question 14 is 3 marks)**