



Acumen Teach  
To the point


# Ratio & Proportion

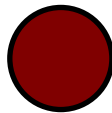
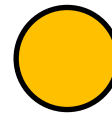
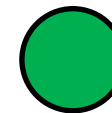
## Master-box

Number—Logic—Mathematical knowledge application—Ratios—Proportion—Logical proofs



 1.5 hours

 36 Questions

Easy (12 Questions)	/12
Moderate(12 Questions)	/24
Difficult(12 Questions)	/36
<b>Total Marks</b>	<b>/72</b>
How did you do?	
  	



# Easy Questions

1. Simplify the ratio 6 : 9.

(1 marks)

2. Divide £20 in the ratio 2 : 3.

(1 marks)

3. If  $x : y = 3 : 4$  and  $y = 12$ , find  $x$ .

(1 marks)



4. Write  $15 : 25$  in its simplest form.

(1 marks)

5. If 5 pencils cost £1.50, what is the cost of 1 pencil?

(1 marks)

6. If  $a : b = 2 : 5$  and  $b = 15$ , find  $a$ .

(1 marks)

7. Share £100 in the ratio  $1 : 4$ .

(1 marks)

8. If 3 apples cost 90p, what is the cost of 5 apples?

(1 marks)



9. Simplify  $14 : 21$ .

(1 marks)

10. If  $2 : 3 = 8 : x$ , find  $x$ .

(1 marks)

11. Simplify  $14 : 21$ .

(1 marks)

12. Simplify  $14 : 21$ .

(1 marks)



# Moderate Questions

13. A map has a scale of 1 : 50,000. If two towns are 8 cm apart on the map, how far are they in real life (in km)?

(2 marks)

14. A bag contains red and blue marbles in the ratio 5 : 3. If there are 24 blue marbles, how many red marbles are there?

(2 marks)

15. A car travels 240 miles in 4 hours. What is its average speed in miles per hour?

(2 marks)

16. A rectangle has sides in the ratio 3 : 5. If the shorter side is 9 cm, what is the perimeter of the rectangle?

(2 marks)



**17.** A recipe requires flour and sugar in the ratio 7 : 4. If 35g of flour is used, how much sugar is needed?

(2 marks)

**18.** A sum of money is shared in the ratio 2 : 3 : 5. If the smallest share is £40, what is the total amount of money?

(2 marks)

**19.** A car uses 12 litres of petrol to travel 144 km. How much petrol will it use to travel 240 km?

(2 marks)

**20.** A school has a ratio of boys to girls of 4 : 5. If there are 180 girls, how many boys are there?

(2 marks)

**21.** A bag contains sweets in the ratio 2 : 3 : 5. If there are 30 sweets in total, how many sweets are in the smallest group?

(2 marks)



**22.** A recipe requires butter and sugar in the ratio 3 : 2. If 60g of butter is used, how much sugar is needed?

**(2 marks)**

**23.** A map scale is 1 : 25,000. If two villages are 6 cm apart on the map, how far are they in real life (in km)?

**(2 marks)**

**24.** A car travels 300 km in 5 hours. What is its average speed in km/h?

**(2 marks)**



# Difficult Questions

25. A bag contains red, blue, and green marbles in the ratio  $3 : 4 : 5$ . If there are 60 marbles in total, how many marbles are there of each colour?

(3 marks)

26. A rectangle has sides in the ratio  $4 : 7$ . If the perimeter is 66 cm, find the length and width of the rectangle.

(3 marks)

27. A recipe requires flour, sugar, and butter in the ratio  $5 : 3 : 2$ . If 200g of flour is used, how much sugar and butter are needed?

(3 marks)





28. A sum of money is shared in the ratio 3 : 4 : 5. If the largest share is £75, what is the total amount of money?

(3 marks)

29. A car travels 360 km in 4 hours. If it continues at the same speed, how long will it take to travel 540 km?

(3 marks)

30. A map scale is 1 : 50,000. If two towns are 12 cm apart on the map, how far are they in real life (in km)?

(3 marks)

31. A bag contains sweets in the ratio 2 : 3 : 4. If there are 45 sweets in total, how many sweets are in the largest group?

(3 marks)



- 32.** A rectangle has sides in the ratio 5 : 8. If the area is  $320 \text{ cm}^2$ , find the length and width of the rectangle.
- (3 marks)**
- 33.** A recipe requires flour, sugar, and butter in the ratio 4 : 3 : 2. If 120g of sugar is used, how much flour and butter are needed?
- (3 marks)**
- 34.** A sum of money is shared in the ratio 2 : 5 : 7. If the smallest share is £30, what is the total amount of money?
- (3 marks)**
- 35.** A car travels 420 km in 6 hours. If it continues at the same speed, how far will it travel in 9 hours?
- (3 marks)**
- 36.** A map scale is 1 : 10,000. If two villages are 15 cm apart on the map, how far are they in real life (in km)?
- (2 marks)**