



THIRD SPACE
LEARNING

GCSE Exam Questions

Ratio | Ratio & Proportion

GCSE Exam Questions: Ratio

- 1) (a) £360 is shared between Abi and Dan in the ratio of 1:2.

How much does Dan receive?

£

(2)

- (b) An amount of money is shared between Ben and Frida in the ratio of 2:5.

Frida receives £45 more than Ben.

Calculate the original amount of money.

£

(2)

(4 marks)

-
- 2) (a) The scale on a map of centimetres to kilometres is $2\text{cm} : 3\text{km}$.

The distance between two points on the map is 7.3cm .

What is the actual distance?

.....

(2)

- (b) How far away are two points on the map if they are 12.3km away in real life?

.....

(2)

(4 marks)

GCSE Exam Questions: Ratio

- 3) (a) The surface area to volume ratio for a cube is written as $6x^2 : x^3$, where $x > 0$.

What value of x would make the ratio 1:1?

Show your working.

(3)

- (b) If the surface area of the cube is 150cm^2 , calculate the volume of the cube.

State the units in your answer.

(3)

(6 marks)

- 4) (a) Two people sprint 100m. The time for each person is written below.

Person	Time (s)
A	12.4
B	11.6

Express the ratio of their times as a ratio in the simplified form $a : b$, where a and b are both integers.

(2)

- (b) Express the ratio of their **average speeds** as a ratio in the form $m : n$ where m and n are integers in the simplest form.

What do you notice about the ratios of their times and the ratios of their average speeds?

(4)

(6 marks)

GCSE Exam Questions: Ratio Answers

	Question	Answer	Marks						
1) (a)	£360 is shared between Abi and Dan in the ratio of 1:2. How much does Dan receive?	(a) $360 \div 3 \times 2$ £240	(1) (1)						
(b)	An amount of money is shared between Ben and Frida in the ratio of 2:5. Frida receives £45 more than Ben. Calculate the original amount of money.	(b) $45 \div 3 \times 7$ £105	(1) (1)						
2) (a)	The scale on a map of centimetres to kilometres is $2\text{cm}:3\text{km}$. The distance between two points on the map is 7.3cm . What is the actual distance?	(a) $7.3 \div 2 \times 3$ 10.95km	(1) (1)						
(b)	How far away are two points on the map if they are 12.3km away in real life?	(b) $12.3 \div 3 \times 2$ 8.2cm	(1) (1)						
3) (a)	The surface area to volume ratio for a cube is written as $6x^2:x^3$, where $x > 0$. What value of x would make the ratio 1:1? Show your working.	(a) $6x^2 = x^3$ $x^2(x - 6) = 0$ oe $x = 6$	(1) (1) (1)						
(b)	If the surface area of the cube is 150cm^2 , calculate the volume of the cube. State the units in your answer.	(b) $6x^2 = 150$ $x^2 = 25$ so $x = 5$ $5^3 = 125\text{cm}^3$	(1) (1) (1)						
4) (a)	Two people sprint 100m . The time for each person is written below. <table border="1"><thead><tr><th>Person</th><th>Time (s)</th></tr></thead><tbody><tr><td>A</td><td>12.4</td></tr><tr><td>B</td><td>11.6</td></tr></tbody></table> Express the ratio of their times as a ratio in the simplified form $a:b$, where a and b are both integers.	Person	Time (s)	A	12.4	B	11.6	(a) $12.4:11.6$ $= 31:29$	(1) (1)
Person	Time (s)								
A	12.4								
B	11.6								
(b)	Express the ratio of their average speeds as a ratio in the form $m : n$ where m and n are integers in the simplest form. What do you notice about the ratios of their times and the ratios of their average speeds?	(b) $S_A = \frac{100}{12.4} = \frac{1000}{124} = \frac{250}{31}$ $S_B = \frac{100}{11.6} = \frac{1000}{116} = \frac{250}{29}$ $m : n = \frac{250}{31} : \frac{250}{29} = 29 : 31$ The ratio values have switched	(1) (1) (1) (1)						

Where to go next?

For more diagnostic questions, and GCSE maths revision resources and worksheets to support students in fixing any misconceptions take a look at the free Third Space Learning [GCSE maths revision](#) pages.

Scan the QR code to discover our library of FREE GCSE maths revision resources

Do you have KS4 students who need additional support in maths?



Our specialist tutors will help students to develop the skills they need to succeed at GCSE in weekly one to one online revision lessons. Trusted by secondary schools across the UK.

Visit thirdspacelearning.com to find out more.