Ratio and Proportion questions and answers

10 questions · Core · 8 non-calculator · worked answers

Name _____ Date _____ Score _____

- Original questions in the style of the Cambridge 0580 papers, each labelled Core or Extended and calculator or non-calculator. Try every question before you look at the answers.
- Worked answers start after the questions. Questions with marks come from our 0580 practice bank (M method, A accuracy, B independent marks).
- Online, with more practice: igcsemathrevision.com/igcse-frontend/0580/ratio-and-proportion-questions

Core: for everyone (Papers 1 and 3, and Extended Papers 2 and 4)

1. **Core · non-calculator · easy**

Divide £96 between Ana and Ben in the ratio $5 : 3$. How much does each get?

2. **Core · non-calculator · easy**

Write each ratio in its simplest form.

(a) $45 : 60$

(b) 2.5 kg $: 750$ g

3. **Core · non-calculator · easy · 2 marks**

Share $£45$ in the ratio $4 : 5$.

4. **Core · calculator · easy · 2 marks**

A recipe for 6 people uses 450 g of rice. How much rice is needed for 10 people?

5. **Core · non-calculator · medium**

A recipe for 6 people uses 450 g of flour.
How much flour is needed for 10 people?

6. **Core · non-calculator · medium**

In a club, the ratio of boys to girls is $5 : 7$. There are 20 more girls than boys.
How many people are in the club?

7. **Core · calculator · medium**

A map has a scale of $1 : 25\,000$. Two villages are 6.4 cm apart on the map.
Find the real distance between them in kilometres.

8. Core · non-calculator · medium

$x : y = 2 : 3$ and $y : z = 4 : 5$.
Find $x : y : z$ in its simplest form.

9. Core · non-calculator · medium · 2 marks

The ratio of boys to girls in a club is $3 : 5$. There are 35 girls. How many students are in the club altogether?

10. Core · non-calculator · hard

A bag holds red and blue counters in the ratio $3 : 5$. After 18 red counters are added, the ratio of red to blue is $3 : 2$.
How many counters were in the bag at the start?

Answers and worked solutions

Question 1

Answer: Ana £60, Ben £36

1. Total parts: $5 + 3 = 8$. One part: $96 \div 8 = 12$.
2. Ana: $5 \times 12 = 60$. Ben: $3 \times 12 = 36$.

Question 2

Answer: (a) $3 : 4$ (b) $10 : 3$

1. (a) Divide both by 15: $3 : 4$.
2. (b) Same units: $2500 : 750$. Divide both by 250: $10 : 3$.

Question 3

2 marks

Answer: $£20$ and $£25$

M1 $45 \div 9 = 5$

A1 20 and 25

Question 4

2 marks

Answer: $750\ g$

M1 $450 \div 6 \times 10$ oe

A1 750

Question 5

Answer: $750\ g$

1. For 1 person: $450 \div 6 = 75$ g.
2. For 10 people: $75 \times 10 = 750$ g.

Question 6

Answer: 120

1. The difference is $7 - 5 = 2$ parts, so 2 parts $= 20$ and 1 part $= 10$.
2. Total: 12 parts $= 120$.

Question 7

Answer: 1.6 km

1. Real distance $= 6.4 \times 25\,000 = 160\,000$ cm.
2. $160\,000$ cm $= 1600\ m = 1.6$ km.

Question 8

Answer: $8 : 12 : 15$

1. Make the y parts the same: $2 : 3 = 8 : 12$ and $4 : 5 = 12 : 15$.
2. So $x : y : z = 8 : 12 : 15$.

Question 9

2 marks

Answer: 56

M1 $35 \div 5 = 7$

A1 56

Question 10

Answer: 32

1. Start: $3k$ red and $5k$ blue.
2. $\frac{3k+18}{5k} = \frac{3}{2}$, so $2(3k + 18) = 15k$, $6k + 36 = 15k$, $k = 4$.
3. At the start: 12 red and 20 blue, 32 counters.

More ratio and proportion practice with instant marking, notes and common mistakes: igcsemathrevision.com/igcse-frontend/0580/ratio-and-proportion-questions

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