

Ratio & Proportion: Hard Practice Paper 8

Q1. Three numbers are in the ratio 3 : 4 : 8. The largest is 20 more than the other two added together. What is the smallest number?

- A. 75 B. 40 C. 80 D. 45 E. 60

Q2. The table shows the price of the same camera in three countries, with the exchange rate for one pound. Where is the camera cheapest?

Country	Price	Rate for £1
Britain	£310	—
America	390 dollars	1.30 dollars
Japan	46 400 yen	145 yen

- A. Britain and Japan are equal
B. Britain
C. Japan
D. America
E. They all cost the same

Q3. Two similar rectangles have perimeters in the ratio 3 : 5. The area of the smaller one is 27 cm². What is the area of the larger one?

- A. 45 cm² B. 75 cm² C. 81 cm² D. 135 cm² E. 60 cm²

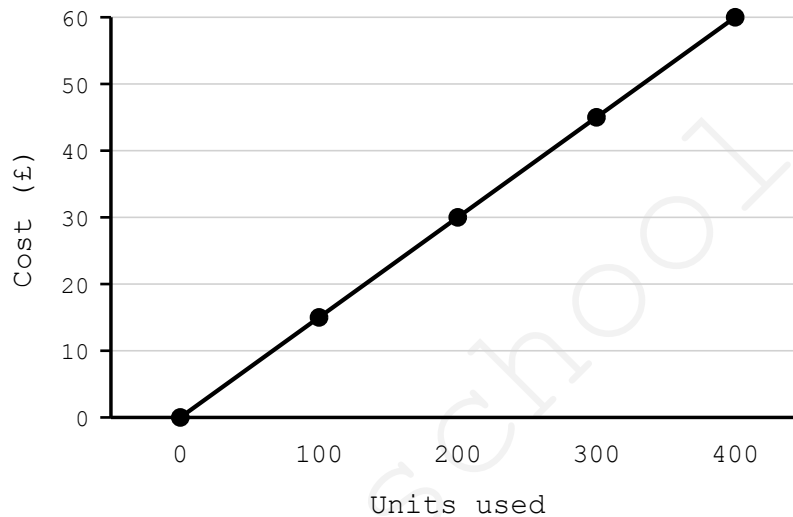
Q4. A cyclist rides the first 2 km in 8 minutes and the next 3 km in 12 minutes. What is her average speed for the whole ride?

- A. 12 km/h B. 16 km/h C. 15 km/h D. 20 km/h E. 18 km/h

Q5. £720 is shared between A, B and C, where $A : B = 2 : 3$ and $B : C = 2 : 5$. How much does C receive?

- A. £432 B. £400 C. £360 D. £450 E. £288

Q6. The graph shows the cost of electricity against the number of units used. What is the cost of 350 units?



- A. £60.00 B. £50.00 C. £55.00 D. £47.50 E. £52.50

Q7. A job would take 10 workers 12 days. After 3 days, 5 more workers join them. How many days does the whole job take altogether?

- A. 10 B. 8 C. 9 D. 7 E. 11

Q8. If $3A = 5B$, what is $A : B$ in its simplest form?

- A. 3 : 5 B. 5 : 3 C. 1 : 1 D. 8 : 15 E. 15 : 1

Q9. A 20 litre drink is mixed from water and juice in the ratio 3 : 1. How much juice must be added so that the ratio becomes 3 : 2?

- A. 8 litres B. 4 litres C. 10 litres D. 2 litres E. 5 litres

Q10. The table shows what four firms charge to hire a van. Which is cheapest for a hire of 4 days?

Firm	Charge
A	£26 a day
B	£40 plus £15 a day
C	£95 for any number of days
D	£30 a day, fourth day free

- A. Firm D
- B. Firm A
- C. Firm B
- D. Firm C
- E. Firms B and C are equal

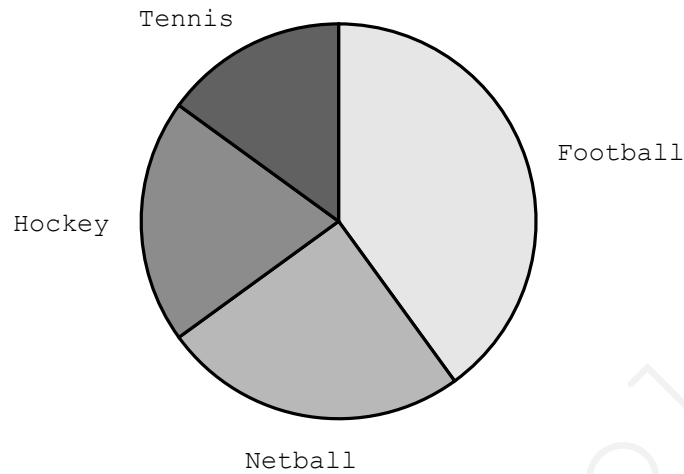
Q11. A price falls in the ratio 4 : 5, new to old. What percentage reduction is this?

- A. 15%
- B. 25%
- C. 80%
- D. 20%
- E. 45%

Q12. Six taps fill 4 tanks in 3 hours. How long would 4 taps take to fill 6 tanks?

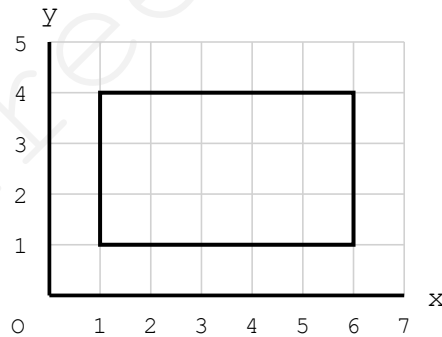
- A. 4 hours 30 minutes
- B. 6 hours 45 minutes
- C. 9 hours
- D. 6 hours
- E. 8 hours

Q13. On the pie chart the sector for football is 144° . If 20 pupils chose football, how many pupils are there altogether?



- A. 45 B. 40 C. 50 D. 60 E. 72

Q14. The plan shows a garden on a grid in which each square stands for 3 m. What is the real perimeter of the garden?



- A. 96 m B. 24 m C. 16 m D. 48 m E. 36 m

Q15. A profit is shared between two partners in the ratio 5 : 3. The larger share is then split between two managers in the ratio 3 : 2. The manager with the smaller of those two amounts receives £600. What was the whole profit?

- A. £2 400 B. £1 500 C. £3 000 D. £1 920 E. £2 000