Ratio & Proportion: Hard Practice Paper 5

Q1. A : B = 3 : 5 and B : C = 2 : 7. What is A : B : C in its simplest form?

A. 3 : 5 : 7

B. 6 : 10 : 35

C. 3 : 2 : 7

D. 6 : 5 : 7

E. 15 : 10 : 14

Q2. Two numbers are in the ratio 4 : 7. When 6 is added to each number, the ratio becomes 5 : 8. What is the smaller of the original numbers?

A. 18 B. 20 C. 24 D. 28 E. 42

Q3. £480 is shared between three people in the ratio 5 : 6 : 9. How much is the smallest share?

A. £96 B. £120 C. £144 D. £160 E. £216

Q4. Nine builders take 20 days to build a wall. How many builders would be needed to build the same wall in 12 days?

A. 12 B. 14 C. 15 D. 16 E. 18

Q5. The sides of a rectangle are in the ratio 5 : 3 and its area is 240 cm². What is its perimeter?

A. 32 cm B. 48 cm C. 60 cm D. 64 cm E. 80 cm

Q6. On a plan, 1 cm represents 2 m. A patio is drawn as a rectangle 3 cm by 4 cm. What is the real area of the patio?

A. 12 m² B. 24 m² C. 36 m² D. 48 m² E. 96 m²

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Q7. 12 litres of orange drink are made from concentrate and water in the ratio 1 : 5. How much extra water must be added so that the ratio becomes 1 : 7?

A. 2 litres B. 3 litres C. 4 litres D. 5 litres E. 6 litres

Q8. A train travels 3 km every 2 minutes at a steady speed. How long does it take to travel 45 km?

A. 15 minutes

B. 20 minutes

C. 25 minutes

D. 30 minutes

E. 35 minutes

Q9. In a car park the ratio of cars to vans is 9 : 2 and there are 45 cars. Five more vans then arrive. What is the new ratio of cars to vans in its simplest form?

A. 9 : 2 B. 3 : 1 C. 9 : 5 D. 4 : 1 E. 5 : 2

Q10. Amy, Ben and Chris share money in the ratio 3 : 5 : 8. Chris receives £60 more than Amy. How much money was shared altogether?

A. £96 B. £144 C. £160 D. £192 E. £240

Q11. A 2 litre bottle of squash costs £3.50 and a 5 litre bottle costs £8.25. How much cheaper is one litre from the larger bottle?

A. 5p B. 10p C. 15p D. 20p E. 25p

Q12. The edges of two cubes are in the ratio 1 : 3. What is the ratio of their volumes?

A. 1 : 3 B. 1 : 6 C. 1 : 9 D. 1 : 27 E. 1 : 81

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Q13. A journey takes 4 hours at a steady speed of 45 km/h. What steady speed is needed to complete the same journey in 3 hours?

A. 50 km/h B. 55 km/h C. 60 km/h D. 65 km/h E. 75 km/h

Q14. In a club 40% of the members are girls and the rest are boys. What is the ratio of boys to girls in its simplest form?

A. 2 : 3 B. 3 : 2 C. 2 : 5 D. 5 : 2 E. 1 : 4

Q15. £700 is shared between Ann, Bob and Cal so that Ann gets twice as much as Bob, and Bob gets three times as much as Cal. How much does Ann receive?

A. £70 B. £140 C. £210 D. £350 E. £420

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