Ratio & Proportion: Hard Practice Paper 4

Q1. A : B = 4 : 5 and B : C = 10 : 9. What is A : C in its simplest form?

A. 4 : 9 B. 8 : 9 C. 9 : 8 D. 2 : 3 E. 5 : 9

Q2. £360 is shared between three people in the ratio 2 : 3 : 7. How much more does the largest share receive than the other two shares added together?

A. £30 B. £60 C. £90 D. £120 E. £150

Q3. A recipe for 5 people uses 400 g of pasta. Kim has a 1 kg bag of pasta. What is the greatest number of whole people she can cook for?

A. 8 B. 10 C. 12 D. 13 E. 15

Q4. A sack of grain feeds 12 hens for 8 days. How long would the same sack feed 16 hens?

A. 4 days B. 6 days C. 9 days D. 10 days E. 11 days

Q5. In a school the ratio of boys to girls is 6 : 7 and there are 120 more girls than boys. How many pupils are there altogether?

A. 780 B. 1200 C. 1440 D. 1560 E. 1680

Q6. Two similar triangles have corresponding sides in the ratio 3 : 7. The perimeter of the smaller triangle is 24 cm. What is the perimeter of the larger triangle?

A. 28 cm B. 42 cm C. 48 cm D. 56 cm E. 168 cm

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Q7. A model aeroplane is made to a scale of 1 : 72. The real aeroplane has a wingspan of 36 m. What is the wingspan of the model?

A. 36 cm B. 50 cm C. 60 cm D. 72 cm E. 500 cm

Q8. £1 is worth 145 yen. A camera costs 29 000 yen. What is its price in pounds?

A. £145 B. £190 C. £200 D. £210 E. £290

Q9. A bag contains red and blue counters in the ratio 3 : 7. When 20 more red counters are added, there are equal numbers of red and blue counters. How many counters were in the bag at the start?

A. 30 B. 40 C. 50 D. 60 E. 70

Q10. A journey of 180 km is driven at a steady 60 km/h. How much time would be saved by driving at a steady 90 km/h instead?

A. 30 minutes

B. 45 minutes

C. 1 hour

D. 1 hour 30 minutes

E. 2 hours

Q11. A 4 litre drink is made from juice and water in the ratio 2 : 3. How much more water than juice does it contain?

A. 400 ml B. 600 ml C. 800 ml D. 1600 ml E. 2400 ml

Q12. A money box holds 20p coins and 50p coins in the ratio 5 : 2. There are 35 coins altogether. What is the total value of the coins?

A. £7.00 B. £8.50 C. £10.00 D. £12.50 E. £15.00

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Q13. Six machines fill 3000 bottles in 4 hours. How long would 9 machines take to fill 4500 bottles, working at the same rate?

A. 3 hours

B. 3 hours 30 minutes

C. 4 hours

D. 4 hours 30 minutes

E. 6 hours

Q14. The ratio of a father's age to his son's age is 5 : 1. In ten years' time the ratio will be 3 : 1. How old is the son now?

A. 5 B. 8 C. 10 D. 12 E. 15

Q15. A cake mixture contains flour, sugar and butter in the ratio 8 : 3 : 5. The whole mixture weighs 3.2 kg. How much butter does it contain?

A. 600 g B. 800 g C. 1000 g D. 1200 g E. 1600 g

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