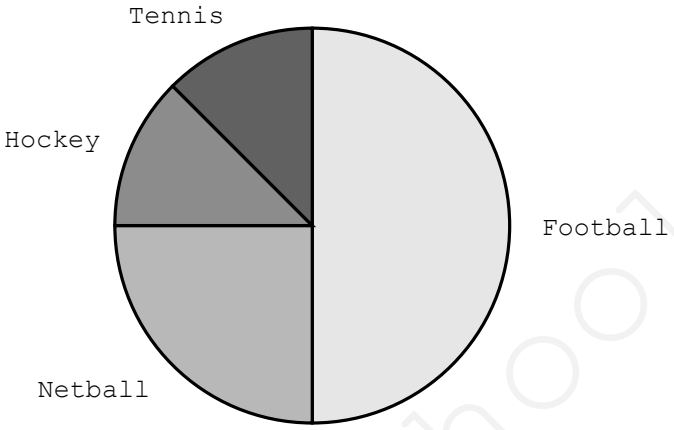
Problem Solving & Word Problems: Hard Practice Paper 8

Q1. The pie chart shows the sport chosen by 360 pupils. How many more pupils chose netball than hockey?



A. 60 *B.* 90 *C.* 30 *D.* 135 *E.* 45

Q2. £840 is shared between Anna, Ben and Cara in the ratio 2 : 3 : 7. How much more does Cara receive than Anna?

A. £280 *B.* £490 *C.* £140 *D.* £350 *E.* £420

Q3. The mean of six numbers is 14. A seventh number is added and the mean becomes 15. What was the number that was added?

A. 15 *B.* 21 *C.* 16 *D.* 20 *E.* 18

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Q4. The table shows three phone plans. Which plan is cheapest for someone who uses 800 minutes in a month?

Plan	Monthly fee	Cost per minute
A	£10	2p
B	£20	1p
C	£25	None

A. Plan B

B. Plan A

C. Plan C

D. Plans A and B cost the same

E. They all cost the same

Q5. A cyclist covers 45 km in 2 hours 30 minutes. What is her average speed?

A. 18 km/h *B.* 22.5 km/h *C.* 15 km/h *D.* 20 km/h *E.* 25 km/h

Q6. In a school 60% of the pupils are girls, and 25% of the girls play an instrument. What percentage of the whole school is made up of girls who play an instrument?

A. 35% *B.* 25% *C.* 85% *D.* 20% *E.* 15%

Q7. A tank measures 2 m by 1.5 m by 0.8 m. Water flows in at 40 litres a minute. How long does the tank take to fill?

A. 90 minutes

B. 40 minutes

C. 60 minutes

D. 24 minutes

E. 120 minutes

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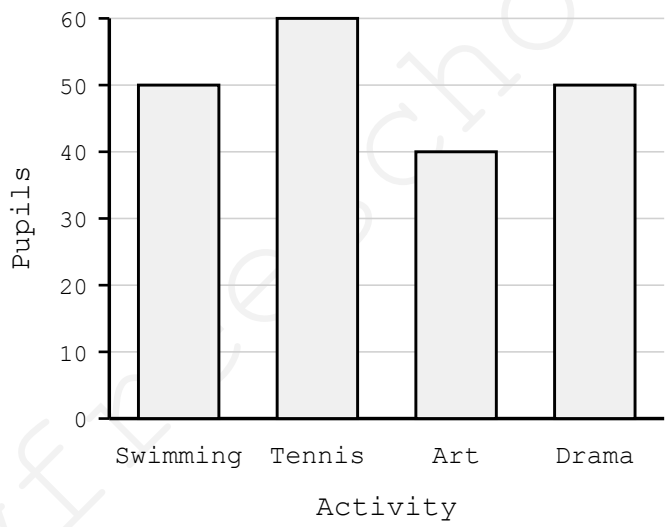
Q8. Sam spends a quarter of his money on a game, then £15 on a book, then half of what is left on food. He has £21 left. How much money did he start with?

A. £72 *B.* £76 *C.* £84 *D.* £96 *E.* £64

Q9. How many whole numbers from 1 to 200 are multiples of 3 but not multiples of 5?

A. 60 *B.* 66 *C.* 40 *D.* 46 *E.* 53

Q10. The bar chart shows the activity chosen by 200 pupils. What percentage of them chose swimming?



A. 25% *B.* 20% *C.* 30% *D.* 50% *E.* 15%

Q11. A father and his son have ages that add up to 64 years. In 4 years' time the father will be 3 times as old as his son. How old is the son now?

A. 18 *B.* 12 *C.* 16 *D.* 14 *E.* 10

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Q12. Of the 50 pupils in a year group, 32 play football and 24 play cricket. Every pupil plays at least one of the two. How many play both?

A. 8 *B.* 6 *C.* 14 *D.* 18 *E.* 4

Q13. A printer prints 3 pages every 2 seconds. How many pages does it print in 4 minutes?

A. 480 *B.* 240 *C.* 360 *D.* 120 *E.* 720

Q14. Buses leave a station every 12 minutes and trains every 20 minutes, and both leave together at 07:00. At what time do a bus and a train next leave together?

A. 08:20 *B.* 07:40 *C.* 07:30 *D.* 08:00 *E.* 09:00

Q15. A trader buys 120 mugs for £300 altogether and sells them all at £3.50 each. What is his percentage profit?

A. 40% *B.* 20% *C.* 30% *D.* 25% *E.* 35%

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