Problem Solving & Word Problems: Hard Practice Paper 2 Answers

Q#	Answer	Explanation
1	D	Working backwards, take away the 7 to get 19 − 7 = 12, then multiply by 3 to get 12 × 3 = 36.
2	D	If all 30 coins were 5p the total would be £1.50. Each 20p instead of a 5p adds 15p, and the extra is £2.85, so there are 285 ÷ 15 = 19 twenty-pence coins.
3	B	The four numbers total 4 × 18 = 72, and the three given numbers total 57, so the fourth is 72 − 57 = 15.
4	C	The sale price is 70% of the original. Since 70% is £42, then 10% is £6, so the original price was £60.
5	C	Taking off the 5 year difference leaves 28 to split equally, so Tom is 14 and Sam is 19.
6	D	The smaller is 1 share and the larger is 2 shares, making 3 shares altogether. One share is 45 ÷ 3 = 15, so the larger number is 2 × 15 = 30.
7	C	The numbers that leave 3 when divided by 7 are 3, 10, 17, 24, 31, 38 and 45. Of these, only 31 also leaves 1 when divided by 5.
8	D	The 12 litres is the difference between three fifths and one third, which is 9/15 − 5/15 = 4/15 of the tank. One fifteenth is 3 litres, so the capacity is 15 × 3 = 45 litres.
9	C	The job takes 5 × 12 = 60 worker-days, so 3 workers take 60 ÷ 3 = 20 days.
10	D	The distance charge is 15 × £1.20 = £18, and adding the fixed £2.50 gives £20.50.
11	B	Taking off the fixed charge leaves £14.50 − £2.50 = £12 for the distance, so the journey was 12 ÷ 1.20 = 10 km.
12	C	The lawn and path together measure 12 m by 8 m, an area of 96 m². Taking away the lawn's 60 m² leaves 96 − 60 = 36 m².

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13	C	From 21:45, adding 8 hours gives 05:45 the next day, and adding 40 more minutes gives 06:25.
14	C	Seven buses carry 7 × 38 = 266 people, which is not enough, so 8 buses are needed.
15	B	The first shape uses 6 tiles and each shape after adds 5 more, so the 20th uses 6 + 19 × 5 = 101 tiles.

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