Data Handling & Probability: Hard Practice Paper 4 Answers

Q#	Answer	Explanation
1	E	The Friday bar reaches 24, but the scale counts in hundreds, so the real number is 24 × 100 = 2400 visitors.
2	C	Monday is 12 and Thursday is 18, so the ratio starts as 12 : 18. Both numbers divide by 6, giving 12 ÷ 6 = 2 and 18 ÷ 6 = 3, so the ratio is 2:3. The hundreds cancel out, so they can be ignored.
3	B	On the scale the difference is 30 − 9 = 21, and each unit is a hundred visitors, so the real difference is 21 × 100 = 2100.
4	D	2 hours 20 minutes is 140 minutes, and each circle stands for 20 minutes, so the row needs 140 ÷ 20 = 7 circles.
5	A	Ben has 4 whole circles worth 4 × 20 = 80 minutes and a half circle worth 10 minutes, giving 80 + 10 = 90 minutes, which is 1 hour 30 minutes.
6	D	The six numbers add up to 6 × 9 = 54, and the two removed come to 3 + 15 = 18, leaving 54 − 18 = 36. The mean of the four left is 36 ÷ 4 = 9, so the mean has not changed.
7	E	The 24 pupils measure 24 × 138 = 3312 cm altogether. With the new pupil that becomes 3312 + 163 = 3475 cm shared between 25 pupils, so the mean is 3475 ÷ 25 = 139 cm.
8	B	The first ball is black with probability 5/8. Then 4 blacks are left among 7 balls, so the second is black with probability 4/7. Multiplying gives 5/8 × 4/7 = 5/14.
9	C	The tea column holds 128 people and 56 of them are children, so the fraction is 56 ÷ 128 = 7/16.
10	A	The cell where the adults row meets the coffee column holds 48 people out of 200, so the probability is 48 ÷ 200 = 6/25.

myfreeschool

11	D	Since 12 own neither, 80 − 12 = 68 people own at least one animal. The two lists add to 45 + 38 = 83, which counts the both group twice, so that group is 83 − 68 = 15.
12	E	The groups below 18 seconds are 12-14 and 15-17, so add those two rows: 5 + 11 = 16 pupils.
13	A	The whole class is 5 + 11 + 9 + 3 = 28 pupils, and only the 21-23 group took 21 seconds or more, which is 3 pupils. That is 3 out of 28, which will not simplify.
14	C	The steepest fall is the fastest loss. Between 3 pm and 4 pm the line drops from 40 to 22 litres, a loss of 40 − 22 = 18 litres, far more than in any other hour.
15	B	Tails has the rest of the probability, which is 1 − 0.35 = 0.65. In 400 flips that gives 0.65 × 400 = 260 tails.

myfreeschool