Data Handling & Probability: Hard Practice Paper 1 Answers

Q#	Answer	Explanation
1	C	The Wednesday bar is the tallest. Its top sits halfway between 7 and 8 on the scale, so it stands for 7.5 hours.
2	E	Add the five bars: 6.5 + 4 + 7.5 + 5 + 3.5 = 26.5 hours. Over five days the mean is 26.5 ÷ 5 = 5.3 hours.
3	A	The week shown totals 6.5 + 4 + 7.5 + 5 + 3.5 = 26.5 hours, so the difference is 40 − 26.5 = 13.5 hours.
4	A	There are 24 pupils, so the median lies between the 12th and 13th values in order. The first 5 pupils have 0, and the next 9 take the count to 5 + 9 = 14, so both the 12th and the 13th pupil have 1.
5	E	Six numbers with a mean of 15 add up to 6 × 15 = 90. Including the new number gives 90 + 22 = 112, and over seven numbers the mean is 112 ÷ 7 = 16.
6	D	The whole 360° stands for 720 people, so each degree is worth 720 ÷ 360 = 2 people. The beach sector of 150° is therefore 150 × 2 = 300 people.
7	B	Each person is worth 360 ÷ 720 = 0.5°, so 90 people take up 90 × 0.5 = 45°.
8	A	The five numbers add up to 5 × 14 = 70 and the four that are left add up to 4 × 15 = 60. The number taken away is the difference, 70 − 60 = 10.
9	B	Only Year 6 matters here. That row holds 10 + 5 + 10 = 25 pupils and 10 of them joined drama, so the probability is 10 out of 25, which simplifies to 2/5.
10	E	The table covers 6 + 10 + 9 + 10 + 5 + 10 = 50 pupils, and the Year 5 art cell holds 10 of them. That is 10 out of 50, which simplifies to 1/5.
11	C	The boys scored 12 × 62 = 744 marks and the girls scored 8 × 72 = 576 marks, so the class scored 744 + 576 = 1320. Over 20 pupils the mean is 1320 ÷ 20 = 66.

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12	B	An estimate from an experiment is the number of successes divided by the number of tries: 130 ÷ 200 = 0.65.
13	D	After the first red counter is kept, 8 − 1 = 7 counters are left and 5 − 1 = 4 of them are red. So the probability of a second red is 4 out of 7.
14	C	Since 5 do neither, 32 − 5 = 27 pupils do at least one activity. The two lists add to 20 + 15 = 35, which counts anyone doing both twice, so the number doing both is 35 − 27 = 8.
15	D	The steepest section shows the biggest growth. From 2022 to 2023 the line rises from £340 to £470, a rise of 470 − 340 = 130, which beats every other year's rise.

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