Data Handling & Probability: Medium Practice Paper 6 Answers

Q#	Answer	Explanation
1	B	The range is the largest value take away the smallest. Reading the chart, the tallest bar is Friday with 21 and the shortest is Wednesday with 9, so the range is 21 − 9 = 12.
2	C	Add the five bars and share the total between the days. The total is 12 + 18 + 9 + 15 + 21 = 75, and there are 5 days, so the mean is 75 ÷ 5 = 15 children.
3	B	The mean is 15 children. Comparing each bar with 15, only Tuesday with 18 and Friday with 21 are above it. Thursday is exactly 15, which is not more than the mean, so the answer is 2 days.
4	C	Each whole symbol stands for 10 tins, so a half symbol stands for 5. Class 4 has 4 whole symbols and a half, giving 40 + 5 = 45 tins.
5	D	Class 2 has 5 whole symbols, which is 5 × 10 = 50 tins, and Class 3 has 2, which is 20 tins. The difference is 50 − 20 = 30 tins.
6	A	The mean cannot separate them, since both are 7, so look at how spread out the scores are. Ali's range is 8 − 6 = 2 while Beth's is 10 − 2 = 8. The smaller range means Ali's scores are bunched together, so he is the more consistent.
7	C	There is an even number of ages, so there is no single middle one. The two in the middle are 10 and 12, and the median is halfway between them: 10 + 12 = 22, and then 22 ÷ 2 = 11. The median need not be one of the numbers in the list.
8	C	The mode is the value that appears most often. In the set 1, 3, 5, 7, 9 every number appears exactly once, so no value stands out and there is no mode. The others each have at least one number that is repeated.
9	D	If the mean of five numbers is 12 then they add up to 5 × 12 = 60. The four given numbers come to 8 + 15 + 11 + 9 = 43, so the fifth number is 60 − 43 = 17.

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10	D	At least 2 goals means 2 or more, so add the matches with 2, 3 and 4 goals: 6 + 4 + 2 = 12 matches. The 3 matches with no goals and the 5 with one goal are not counted.
11	C	Look along the line for the points that sit higher than the 15 mark. Tuesday at 17, Wednesday at 16 and Thursday at 19 are all above it, while Monday at 13 and Friday at 14 are below. That gives 3 days.
12	C	A third of the pupils come by bus, so divide the whole class by 3: 60 ÷ 3 = 20 pupils. The walking sector fills half the circle, which would be 30 pupils.
13	C	There are 5 + 7 + 8 = 20 counters altogether, and 8 of them are green, so 20 − 8 = 12 are not green. The probability is 12 out of 20, which cancels down to 3/5.
14	C	The experimental probability is the number of times it happened out of the number of tries, which is 20 out of 80. Dividing both by 20 gives 1 out of 4, so the probability is 1/4.
15	E	The people he asks have already shown they like football, so they do not stand for the school as a whole and the results will be tilted towards football. A fair survey needs a sample taken from right across the school.

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