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General

This paper tested a variety of skills, was accessible to its target group, and there was no evidence of candidates being short of time. Presentation was generally good and the majority of candidates showed their methods clearly. However, the standard of written explanation of some candidates is a major concern.

Topics that were well done included:

- drawing and using a line of best fit
- interpreting a two-way table
- mutually exclusive probability.

Topics which candidates found difficult included:

- probability of combined events
- use of a trend line with moving averages
- comparison of mean and range
- interpreting a histogram.

Question 1

Part (a) was answered well by the majority of candidates although some did not appreciate that the estimate of the number of errors in part (a)(ii) should be an integer. Parts (b) and (c) caused slightly more problems with candidates not always understanding the context of the situation or being unable to clearly explain their reasoning.

Question 2

In part (a)(i) many candidates gave the correct solution with correct probability notation. Common incorrect responses were $\frac{12}{50}$ and 19. In part (a)(ii), many candidates realised that the grouping of the data was the problem but some thought that if the first group had been 0-8 then the question could have been answered. Part (a)(iii) gained a mixed response with some candidates giving fully correct answers but others adding the midpoints or frequencies and dividing this total by four. Candidates should also be aware that money answers containing pence should always have two decimal places.

Part (b) of this question was poorly attempted with the majority of candidates having little understanding of what the values of mean and range actually imply. The term ‘average’ was rarely used in comparing the means and few candidates had any appreciation of how to compare ranges. Candidates frequently gave answers comparing the mean to the range, for example, “the range was nearly twice the mean”.

Question 3

This question was poorly attempted by many candidates with the most common incorrect answer being 148, the median value. There was some misreading of the scale and a number of candidates calculated the range.

Question 4

The better candidates gained full marks for this question but a large number either did not know how to proceed or simply worked out the difference between the number of Year 5 and Year 6 pupils in the school.

Question 5

The more able candidates accessed this conditional probability question but there were many who had little idea of where to start. Incorrect responses included adding the correct probabilities, only considering one product or calculating inappropriate products such as $\frac{9}{15} \times \frac{3}{10}$. Some candidates multiplied their $\frac{1}{10}$ and $\frac{1}{4}$, whilst others could not add or multiply simple fractions, despite this question being on the calculator section of the paper.

Question 6

6(a)(i) was answered well by the majority of candidates but some found (a)(ii) more demanding with a common response of zero seen. In part (b) many gave at least one correct criticism but some gave repetitions of the same criticism or referred to the width of the groupings.

Question 7

Part (a) caused very few problems but in part (b), it was disappointing to see so many candidates failing to score. Common responses were 0.3 + 0.3 or 0.3 × 2. It was also a concern that many candidates who knew that they had to multiply calculated 0.3 × 0.3 as 0.9.

Question 8

Some candidates calculated the next moving average correctly but a large number thought that the moving averages followed the sequence 46, 48, 50. Calculations involving division by three were also seen and there were some arithmetic errors in dividing 204 by 4. In part (b) the heights were generally plotted correctly but there were errors in knowing where to plot horizontally. Part (c) proved to be beyond all but the very best candidates with the majority extending their trend line off the edge of the graph paper and attempting to read a value at Autumn 2007. Some simply tried to see patterns in the data from the table.

Question 9

Many different methods were seen in this question which could have led to correct answers. However, some candidates made errors with the scale whilst others made arithmetic errors in dividing up the histogram. The better candidates set out clear methods and were successful in calculating the correct value but a large proportion had little idea of how to proceed.