Examiners' Report

Principal Examiner Feedback

October 2020

Pearson Edexcel GCE

In Statistics (9ST0_03)

Paper 3: Statistics in Practice

Question 1

Unfortunately, many candidates didn't realise that it is possible for a proportion to increase without the numbers themselves increasing. For instance, if male civil servants had quit the proportion of females would increase without the total number increasing. Candidates were generally able to answer parts (b) and (c), and on the whole make a good attempt at part (d). Some candidates simply described explicitly year by year what happened and were unable to be awarded full marks – they should make clear distinct comments on trends in the data.

Question 2

(a) and (b) were well answered. It is particularly pleasing to see candidates realising that making assumptions does not require them to be stated, and either a one or two tailed test was acceptable as either would be appropriate here. In general (c) was also answered well, but explicit references to the hypothesis test were often lacking. Candidates did surprisingly poorly on part (d), which was an entirely standard interpretation of a least squares regression line. It is important when giving context to include units. While many candidates had some understanding of residuals, it was rare for a candidate to use the data correctly. Both the regression line equation and the true value for cricket H were given, but many candidates calculated their residual from the graph which was not accurate enough – the word calculate was bolded in the question. (f) and (g) were answered well, with the most common answer by far to part (g) being to increase the sample size.

Question 3

Part (a) was a standard hypothesis test and answered well in general. Candidates needed to explicitly refer to the fact the whole population was present, not simply discuss a large sample size in (b). The number of marks in (c) should give some indication of how much detail is required. Each fact should have been explicitly referred to.

Question 4

Surprisingly few candidates correctly named the type of sampling, though they were still able to answer (b). In (c) some answers simply vaguely stated facts about the binomial distribution, and didn't tie in to the context of the question. (d) and (e) were answered well, and a good attempt was made at (f) by most candidates. Part (g) specifically requested context, though this was not included by all candidates.

Question 5

Despite being a standard hypothesis test of proportion this was answered poorly. Once again, either a one or two tailed test was accepted. Candidates should remember that hypotheses should always be about **populations** rather than **samples**, and there is different notation for these. Most candidates did however give advice to Sharon in their answer.

Question 6

This question was answered well in general, with (a) and (b) being entirely standard. Part (c) asked specifically for two reasons, yet some candidates only gave one. Some candidates thought the equivalent parametric test was paired and incorrectly gave this as a reason why it would not have been appropriate.