

Examiners' Report

Summer 2014

Pearson Edexcel GCE in Statistics 3R
(6691/01R)

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Mathematics Unit Statistics 3

Specification 6691/01R

General Introduction

On the whole this paper was very accessible with the required methods well known by the majority of the students. There were some issues with accuracy in the numerical parts of the questions, but the interpretation in context saw some good responses.

Report on Individual Questions

Question 1

This was a productive start to the paper for the majority of students with completely correct responses seen often in Q01(a). The hypothesis test in Q01(b) usually had the correct critical value, but common errors were the hypotheses being badly formed in words. Weaker responses usually missed the final conclusion in context. Q01(c) was known to more students than might have been expected and if the correct terms were not known in Q01(d), a justification by describing skewness was not uncommon.

Question 2

Full marks were often awarded in Q02(a) as the methods were well understood and were calculated accurately. Some confusion was evident in the formulation of the hypotheses in Q02(b), but again full marks here was not unusual.

Question 3

Fully correct solutions were not uncommon in this question and the methods were clearly well understood. Occasionally, the calculation of the variance in Q03(a) caused problems with squares being missed or sign changes not applied. Some weaker students were easily confused when trying to find the probabilities in each part, with errors being made with the standardisation and the incorrect inequality being used.

Question 4

This question proved to be a challenge to those students who were reluctant to set out their working clearly. These solutions usually did not gain any credit beyond the first two marks for finding the expression for the sample mean. The use of an incorrect critical z value and l or the use of 6 rather than $\frac{6}{\sqrt{5}}$ on the denominator was also seen, but a final correct value was found by many students.

Question 5

This question proved to be very well answered and it was pleasing to see so many fully correct solutions to Q05(a) and Q05(b), including conclusions in sufficient context to be awarded the marks available. Q05(c) and Q05(d), however, often lacked detail with values being calculated accurately in Q05(d) with no mention of a list being required. Students often stated 'at random' rather than describing how this might be achieved.

Question 6

The responses to Q06(a) were poor and students did not realise that specific assumptions were required and simply listed all the requirements for a Binomial distribution. Despite this weak start to the question, students typically gained most of the marks on the next two parts. Most students were awarded the marks for Q06(b) and combining groups accurately was not unusual. Occasional errors were made with the degrees of freedom and some solutions offered lacked context in the conclusion to Q06(c). Q06(d) proved more challenging with confused or inaccurate reasons being offered. The majority of students finished the question well with most marks being given in Q06(e) with only the occasional conclusion missing sufficient context for the final accuracy mark.

Question 7

This was the most challenging question on the paper, but typically students produced good responses. The confidence interval methods were well understood in both parts with only occasional accuracy errors being seen. Occasionally, the wrong z value was chosen in Q07(b), but the value 11 was seen very often in the final answer.

Grade Boundaries

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