



**General Certificate of Education (A-level)
June 2012**

Statistics

SS04

(Specification 6380)

Statistics 4

Report on the Examination

Further copies of this Report on **the Examination** are available from: aqa.org.uk

Copyright © 2012 AQA and its licensors. All rights reserved.

Copyright

AQA retains the copyright on all its publications. However, registered schools/colleges for AQA are permitted to copy material from this booklet for their own internal use, with the following important exception: AQA cannot give permission to schools/colleges to photocopy any material that is acknowledged to a third party even for internal use within the centre.

Set and published by the Assessment and Qualifications Alliance.

The Assessment and Qualifications Alliance (AQA) is a company limited by guarantee registered in England and Wales (company number 3644723) and a registered charity (registered charity number 1073334).
Registered address: AQA, Devas Street, Manchester M15 6EX.

General

Candidates were well prepared for the standard statistical calculations but found interpreting their results more challenging. Generally answers were given to an appropriate degree of accuracy.

Question 1

This proved a straightforward starter for most candidates

Question 2

Most candidates were well prepared for this standard hypothesis test.

Question 3

The calculations caused few problems. In part (b) some candidates lost marks by not reading the questions carefully and consequently answering questions which had not been asked.

Question 4

Most candidates used the correct distributional approximations in part (a). In part (a)(ii) many realised that continuity corrections were required but failed to apply the correct approximations for 'at least 290 but not exceed 305'. This often led to large differences between candidates' answers and those obtained by Michael. In most cases, where this occurred, candidates were confident that the fault lay with Michael or his calculator rather than themselves.

Although many used normal approximations to the binomial successfully, in question 3, to calculate confidence intervals for proportions, few offered this as an answer to part (c)(i). There was little sympathy for Michael's claim in part (c)(ii) although there were very few convincing reasons given.

Question 5

This topic always proves difficult for many candidates. This year they coped a little better than usual. Part (a)(ii) caught some by surprise but as it was only worth one mark this had no serious consequences.

In part (c) comments tended to concentrate on the probability of bottles containing less than 500 grams of beer. As the question contained no information on how much beer the bottles were supposed to contain, a comment on the more variable content of bottles from the new machine would have been more valuable.

Question 6

Compared to previous years candidates did better with part (a) - the test using an exact binomial - but not as well with part (b) - the test using a normal approximation.

Disappointingly few made the comment in part (d)(ii) that any conclusion would be suspect as the sample was self selecting.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the [Results statistics](#) page of the AQA Website. UMS conversion calculator www.aqa.org.uk/umsconversion