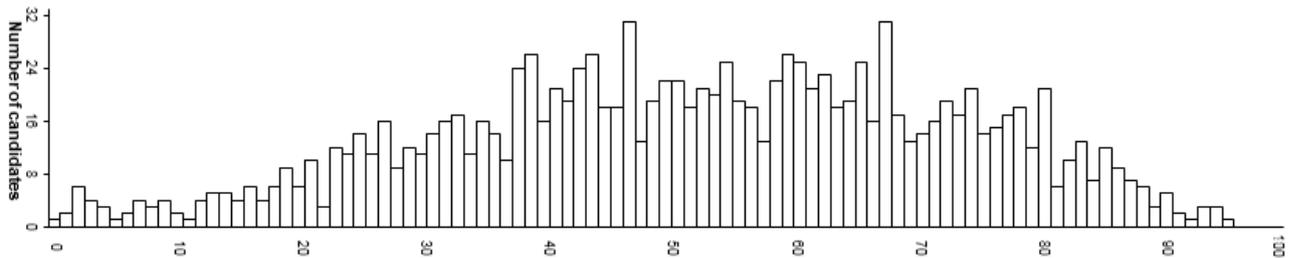




Summary report for candidates on the 2014 WACE examination in Mathematics: Specialist 3C/3D

Year	Number who sat	Number of absentees
2014	1250	23
2013	1523	16
2012	1490	18

Examination score distribution



Summary

The examination had a mean of 52.63%. Candidate scores for the examination ranged from a minimum of 0% to a maximum of 96.33%. The standard deviation was 20.47%. The section means were: Section One: Calculator-free 56.13% and Section Two: Calculator-assumed 50.88%.

General comments

Poor results this year were partly due to a number of topics that seemed to be insufficiently well understood and deficiencies in a number of core skills. Amongst these, the stand out issue was the very poor standard of algebra. At this level of work, accurate manipulation is crucial if a candidate is to exhibit a good working knowledge of higher-level concepts in mathematics. There were several instances of algebraic manipulations of the form that

$$\frac{a}{a+b} = 1 + \frac{a}{b}, (a+b)^n = a^n + b^n$$

or, when solving equations, the argument that $(x-5)(x+1) = 9$ means that either $x-5 = 9$ or $x+1 = 9$. At Mathematics: Specialist 3CD level, most questions will inevitably consist of several parts linked, one to the next. Errors such as these early on in a question are normally enough to mean progress is likely to be extremely difficult. In the vector questions notation was extremely poor with proper designation of vector quantities frequently omitted.

Advice for candidates

- Remember that when a question is worth more than two marks, some working needs to be given to warrant the award of full marks. In this year's paper many candidates answered Question 7 (b) and parts of Question 15 with no explanation whatsoever.
- A calculator should be used to help solve problems, but not solve them in their entirety. If a candidate uses the Computer Algebra System (CAS) in part of a question, the commands issued should be indicated on the Question/answer booklet. It is not sensible to try to deceive the markers regarding the output of a calculator – many candidates purported in Question 18 (a) that the output of their calculator provided the required answer. This was most unlikely given that the integral in the answer was incorrect!
- Presentation skills are important in an examination. Some of the handwriting this year was virtually illegible. Diagrams should be neat and accurate – if they are not it is likely that you disadvantage yourself. The prime example of this was Question 16; many of the diagrams in parts (a) and (c) were so inaccurate it would be impossible to visualise the required regions for part (d).