

Scholarship

2010 Assessment Report

Mathematics with Calculus

COMMENTARY

Fewer candidates than expected attempted to manipulate a partial answer to match a given solution (in a “show that” type question). There was scope in most questions for candidates to gain some marks for beginning writing a solution they were unable to complete.

Some candidates did not notice the words and phrases in bold in the examination which highlighted critical components of several questions.

With the exception of question 4(c), questions did not require a lot of writing to arrive at a correct answer. Some candidates awarded Scholarship used twelve pages or less of the answer booklet.

SCHOLARSHIP WITH OUTSTANDING PERFORMANCE

Candidates who were awarded Scholarship with Outstanding Performance typically:

- used efficient and elegant algebraic techniques
- worked with insight into the problem
- demonstrated understanding of the connections between strands of the curriculum
- supported their answers with brief supplementary or explanatory comments
- developed answers with graphical representations
- wrote responses which clearly demonstrated their chain of reasoning.

SCHOLARSHIP

Candidates who were awarded Scholarship but not Scholarship with Outstanding Performance typically:

- demonstrated strong geometric reasoning and understanding
- worked well with indices and logarithms
- self-corrected errors in working
- had a good understanding of the second derivative test
- saw the connections between parts of questions
- purposefully manipulated algebraic expressions
- could determine when they had arrived at a valid solution
- found applicable methods of solution to the more open-ended questions.

OTHER CANDIDATES

Candidates who were not awarded Scholarship or Scholarship with Outstanding Performance typically:

- had flaws in their basic algebraic skills
- did not apply basic knowledge which was accessible on the formula sheet
- showed poor understanding of the relationship between the discriminates of a quadratic and the nature of the solutions
- had difficulty working with surds, and negative or fractional powers
- could not ‘complete the square’
- could not manipulate an algebraic answer into a required form
- made errors when applying the product rule more than once
- did not work in exact form when it was required
- stated points of inflection without testing

- drew inadequate diagrams when explicitly required.