

Summary of Examiners' Reports for NST Maths 1A and 1B

MG Worster

This report provides a summary of some of the main points made in the Examiners' reports (attached) and provides some commentary following a meeting of the NST Mathematics Teaching Committee held on Monday 5 November 2012, at which the reports were discussed.

NST maths 1A

There was a total of 489 students who took this examination, comprising 429 NST students and 60 CST students. Last year there were 506 students, comprising 436 NST and 70 CST. The previous year the figures were 483, 420 and 63 respectively. It is pleasing to note that there were no reports of misconduct nor of any mistakes in the examination papers.

The median raw mark (out of 240) has been climbing steadily over the past several years

2008	2009	2010	2011	2012
131	140	162	170	182

There is no commentary, neither in the examiners' reports nor in minutes of other associated bodies, raising concerns of inappropriate grade inflation. This is a course that is supposed to teach transferable mathematical skills, so it is appropriate to hope for a high level of attainment.

In this regard it is pleasing to see that the median marks on the A Sections (basic manipulation) have been increasing. It should be hoped for the median for Paper 1 Section A, which is based on core A-level mathematics (C1–C4), to be even higher, and this might be an appropriate time to suggest to Directors of Studies that they encourage students at an early stage of the year to use these sections of past papers to practice their core skills.

It is noted that, as usual, there are significantly fewer than average attempts at starred questions (which involve material taught in the B course but not in the A). This is not thought to be a concern: the B-course material is educational for those students who can cope with it but those same students can reasonably adopt an examination strategy that avoids it.

Assessors were used to help with the marking of Sections A and (for particular reasons this year) some questions from Sections B. In the Teaching Committee it was felt that assessors can appropriately be used for Section A but should not routinely be used for Section B. It is good practice that all assessors be approved in advance by the Faculty Board.

The Examiners recommend that scripts should be sorted by question, with each question having a separate cover sheet. The Teaching Committee felt that this level of sorting was unnecessary and would pose an unreasonable burden on students and invigilators and increase the opportunities for questions to be misplaced. However, Sections A could be bundled separately from the Section B bundles for individual examiners.

Since last year, calculators are not allowed in these examinations. It would be helpful to everyone involved, particularly perhaps those organising examinations in college, if a clear statement to this effect could be included in the rubric.

It was noted anecdotally in the Teaching Committee that some questions set in recent years have been very long, in the sense of having a lot to read. It was felt that examiners should be encouraged to present questions briefly.

There are two recommendations that relate to the Examinations Board: it should be ensured that there are at least two (preferably three) invigilators in the Large Examination Hall; invigilators should be reminded to remind students at the end of the examination to complete all the appropriate cover sheets.

NST maths 1B

The examination was taken by 169 students (166 last year). There were no incidents nor major questions from the students.

The average mark on the CATAM component was 65.5%, which is pleasing.

The percentage of candidates scoring a raw mark of 60% or higher was 68% (the so-called R% value). NST regulations require that marks be rescaled so that only 60% of candidates are awarded a scaled mark of 60% or higher **unless** a cohort-tracking measure indicates that rescaling would be inappropriate. Specifically, if C% of the candidates taking the mathematics papers had scored an aggregated mark of 60% or higher in Part 1A of the NST Tripos and C is greater than or equal to R then no rescaling is required. For this year's candidates, C was equal to 75, so no rescaling was done. The generally high achievement of students taking this mathematical component of NST 1B is very pleasing.