



Principal Assessor Report 2007

Assessment Panel:

Mathematics and Statistics

Qualification area

**Subject(s) and Level(s)
Included in this report**

Mathematics: Intermediate 1

Comments on candidate performance

General comments

The paper was considered to have provided a good coverage of the syllabus at an appropriate level of difficulty.

Less than a fifth of the entries were for Mathematics 1, 2 and Applications.

The mean marks for both Paper 1 and Paper 2 continue to be higher for those candidates sitting Mathematics 1, 2 and 3.

Areas in which candidates performed well

Paper 1

Qu.8

Paper 1: Questions appearing **only** in Mathematics 1, 2 and 3

Qu.5 Candidates performed better in this question (straight line) than in previous years.

Paper 1: Questions appearing **only** in Mathematics 1, 2 and Applications

Qu.3(a)

Paper 2

Qus.1(a), 5, 7(a)(b), 10

Paper 2: Questions appearing **only** in Mathematics 1, 2 and 3

Qu.11 candidates performed better than expected in this question.

Paper 2: Questions appearing **only** in Mathematics 1, 2 and Applications

Qu.6(a), 11(a)

Areas which candidates found demanding

Paper 1

Qu.1(c) Very few candidates answered this question correctly.

Many candidates did not attempt the question.

$\frac{57}{100}$ was a common answer.

Qu.2 Most candidates knew to multiply £7.65 by 8 but a disappointing number were unable to carry out the calculation correctly.

Qu.4 Most candidates still did not know how to calculate the mean from a frequency table. Most were able to complete the table correctly but then stopped or continued incorrectly. A significant number proceeded to calculate $390 \div 6$ or $45 \div 6$.

Qu.10 Most candidates correctly found $\frac{3}{5}$ and $\frac{8}{15}$ but did not know how to compare them. A significant number stated that the probability of selecting a black counter from bag 2 was greater because there were more black counters in that bag.

Paper 1: Questions appearing **only** in Mathematics 1, 2 and Applications

Qu.3(b) Very few candidates answered this question correctly.
Most candidates gave an answer of 52 minutes.

Qu.5 Many candidates answered this question incorrectly.
Finding the areas of the triangular faces caused most difficulty.

Paper 2

Qu.3 Most candidates knew to divide distance by time.
Disappointing number were unable to find the correct time for the journey.
Many did not express time in decimal form in order to carry out the calculation correctly.

Qu.7(c) Many candidates were able to interpret the significance of the median but very few were able to interpret the meaning of the range.

Qu.13 A wide variety of incorrect methods were used but most candidates were able to score 1, 2 or 3 marks out of 5.
Some used $\frac{1}{2}nd$ with a wrong diameter or $n\pi$, π^2 or $\frac{1}{2}\pi^2$ for the length of the semi-circle.
Some used 44 or 120 for the length of the straight edges.

Qu.14(a) Few candidates scored full marks in this question.
Common answers were (i) 2800 (ii) 12, 1200 and 1218
(b) Few candidates scored any marks in this question.

Advice to centres for preparation of future candidates

Centres should consider how best to maintain and practise number skills and mental strategies in preparation for the non-calculator paper in the external examination.

Centres should continue to consider how best to maintain and practise knowledge acquired at earlier stages in the course on a regular basis in an attempt to improve retention.
(e.g mean from a frequency table and distance, speed, time calculations involving fractions of an hour are two routine topics which candidates regularly answer poorly in the external examination.)

Centres should consider how best to practise interpreting calculated statistics.

Statistical information: update on Courses

Number of resulted entries in 2006	10,284
------------------------------------	--------

Number of resulted entries in 2007	11,434
------------------------------------	--------

Statistical Information: Performance of candidates

Distribution of Course awards including grade boundaries

Distribution of Course awards	%	Cum %	Number of candidates	Lowest mark
Maximum Mark - 80	-	-	-	-
A	24.7	24.7	2,821	56
B	16.7	41.4	1,910	48
C	16.9	58.3	1,935	40
D	7.2	65.5	825	36
No award	34.5	100.0	3,943	-

General commentary on passmarks and grade boundaries

- While SQA aims to set examinations and create mark schemes which will allow a competent candidate to score a minimum 50% of the available marks (notional passmark) and a very well-prepared, very competent candidate to score at least 70%, it is almost impossible to get the standard absolutely on target every year, in every subject and level
- Each year we therefore hold a passmark meeting for each subject at each level where we bring together all the information available (statistical and judgmental). The Principal Assessor and SQA Qualifications Manager meet with the relevant SQA Business Manager and Statistician to discuss the evidence and make decisions. The meetings are chaired by members of the senior management team at SQA
- We adjust the passmark downwards if there is evidence that we have set a slightly more demanding exam than usual, allowing the pass rate to be unaffected by this circumstance
- We adjust the passmark upwards if there is evidence that we have set a slightly less demanding exam than usual, allowing the pass rate to be unaffected by this circumstance
- Where the standard appears to be very similar to previous years, we maintain similar grade boundaries
- An exam paper at a particular level in a subject in one year tends to have a marginally different set of grade boundaries from exam papers in that subject at that level in other years. This is because the particular questions are different. This is also the case for exams set in centres. And just because SQA has altered a boundary in a particular year in say Higher Chemistry does not mean that centres should necessarily alter boundaries in their prelim exam in Higher Chemistry. The two are not that closely related as they do not contain identical questions
- Our main aim is to be fair to candidates across all subjects and all levels and maintain standards across the years, even as arrangements evolve and change.