

Principal Assessor Report 2006

Assessment Panel:

Mathematics and Statistics

Qualification area

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

Mathematics : Intermediate 2

Comments on candidate performance

General comments

Feedback confirmed that the paper reflected the curriculum and was accessible to the vast majority of candidates.

There seemed to be few very poor candidates which suggests that candidates are being presented at the appropriate level.

S4 candidates seemed to perform better than S5/6 candidates.

Candidates sitting Units 1,2 and Applications continue to do less well than those candidates sitting Units 1, 2 and 3.

Areas in which candidates performed well

Paper 1:

Q3 (Units 1, 2, 3) and Q4 (Applications): Dot plot, quartiles, probability.
Q7 (Units 1, 2, 3): Parabola

Paper 2:

Q1 (both papers): Percentages
Q2 (both papers): Simultaneous equations
Q3 (Units 1, 2, 3) and Q8 (Applications): Volume
Q5 (a) (both papers): Mean and standard deviation
Q8 (b) (Units 1, 2, 3) and Q12 (b) (Apps): Length of arc
Q4 (b) (Applications): Calculating cell in spreadsheet

Areas which candidates found demanding

Paper 1

Q4 (Units 1, 2, 3) and Q7 (Applications): Many substituted $\frac{2}{3}$ for angle B instead of $\sin B$.
Q5 (Units 1, 2, 3) and Q8 (Applications): In part (a) – find gradient – candidates used a variety of methods but, generally, were unsuccessful.
Q6 (Units 1, 2, 3) and Q9 (Applications): Many thought the value of sine was proportional to the size of the angle.
Q8 (Units 1, 2, 3): A common wrong answer here was 1.
Q9 (Units 1, 2, 3): Most tried to work out $16 \times \frac{3}{4}$ instead of $16^{\frac{3}{4}}$

Paper 2

Q5(b) (both papers): Most candidates did not seem to realise that a reason in this situation should contain an **explicit** comparison between the candidate's results and the data in the condition. For example, a correct response could be "Yes, because the mean

Q7 (Units 1, 2, 3):	is 20.5 which is between 19.4 and 20.6 and the standard deviation is 1.52 which is less than 2.”
Q8 (Units 1, 2, 3) and Q12 (Applications):	Addition of fractions continues to confuse many candidates. In part (a) many failed to identify the right-angled triangle correctly.
Q9 (Units 1, 2, 3):	Candidates tended to omit the brackets in the final line and so lost the second mark. They wrote $x = b - a \times c$ instead of $x = (b - a) \times c$.
Q11 (Units 1, 2, 3):	In part (a) many candidates failed to realise what was expected and instead tried to solve the equation – thus answering part (b).
Q4 (Applications):	Candidates fail to appreciate that there is a standard way of writing formulae for spreadsheets, i.e. must start with =, use * instead of \times , etc.
Q9 (Applications):	Some still having problems with the third tier of tax but also, more worryingly, a significant number of candidates did not know how many weeks are in a year.
Q11 (Applications):	Most candidates identified the correct amount from the table but were unsure what to do with it.

Advice to centres for preparation of future candidates

Hopefully the details above will help teachers and candidates identify possible areas for reinforcement.

More generally:

Candidates should be discouraged from using Trial and Improvement as a strategy at this level and encouraged to focus on more efficient methods.

Centres should continue to remind candidates that when rounding is explicitly required, it is good practice to record their unrounded answer also and to round to the required accuracy at the **end** of the problem.

Statistical information: update on Courses

Number of resulted entries in 2005	15,163
------------------------------------	--------

Number of resulted entries in 2006	16,695
------------------------------------	--------

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	23.9	23.9	3,982	54
B	17.2	41.1	2,877	45
C	20.0	61.1	3,346	36
D	10.4	71.5	1,738	31
No award	28.5	100.0	4,752	-

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.