

9 March 2012

**For the attention of all staff responsible for the delivery of
National Qualifications in Mathematics**

Action by Recipient	
	Response required
✓	Note and pass on
	Note — update/information only

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Dear Colleague

National Qualifications Update – Mathematics

The contents of this letter should be passed to the member of staff responsible for Mathematics.

The following items are included:

- 1 Online guidance documents: IARs and EARs
- 2 Statistical information 2011
- 3 Analysis grids for Intermediate 1 and 2 Mathematics examination papers
- 4 Exemplar grids for analysing centre evidence: Intermediate 1 to Advanced Higher
- 5 Codes for Intermediate 1 and Intermediate 2 Mathematics examinations
- 6 Presentations from recent Quality Network Events
- 7 Appeals

Appendix: Progression information for diet 2011

1 Online guidance documents – IARs and EARs

SQA publishes a range of guidance annually on both the evidence generated for assessment within centres, and on external assessment performance.

Internal assessment is addressed in the document “Internal Assessment Report”, the latest copies of which can be found on the SQA website, in the Mathematics section:

<http://www.sqa.org.uk/sqa/2464.html>

within the pages relating to individual levels, in the centre column under the drop down Internal Assessment Reports. The information relates to internal assessment for Access 3, Intermediate 1, Intermediate 2, Higher and Advanced Higher. Reports contain general comments, and information on areas of good practice and areas for improvement.

External Assessment is addressed in the document “External Assessment Report”, which can be found on the website as above, within the pages relating to individual levels, in the centre column under the drop down External Assessment Reports. The information relates to individual levels from Standard Grade to Advanced Higher. Individual reports provide information on the performance of candidates which it is hoped will be useful to teachers/lecturers in their preparation of candidates for future examinations. Reports contain detailed information on areas where candidates performed well, areas which candidates found demanding, advice to centres for the preparation of future candidates and statistical information.

2 Statistical Information 2011

Further statistical information can be accessed through the SQA statistics section of the website, which contains a range of statistical reports on uptake and attainment in our qualifications. Detailed information regarding Mathematics examinations, including grade boundaries, pre-appeals data and mean component marks can be found on the following webpage:

sqa.org.uk/statistics

3 Analysis grids for Intermediate 1 and 2 Mathematics examination papers

Data, in the form of Analysis Grids for past paper questions for Intermediate 1 and 2, is available on the Mathematics webpage:

<http://www.sqa.org.uk/sqa/2464.html>

in the Support Material column. These grids provide detailed analysis of individual questions with information on content and Unit covered, and level of difficulty.

4 Exemplar grids for analysing centre evidence: Intermediate 1 to Advanced Higher

Centre staff can find exemplar grids for recording and analysing their own centre evidence on the Mathematics webpage above in the Support Materials column. These grids have been provided in response to requests from delegates attending Mathematics Quality Network Events at which similar grids were used.

Whilst it is hoped that they will be a useful tool for Centre staff, it should be noted that the use of such grids is not compulsory when collating or submitting evidence for estimates, absentees or appeals, and it is likely that the format will need to be amended to suit the needs of individual centres.

5 Codes for Intermediate 1 and Intermediate 2 Mathematics examinations

Centres should check that the correct codes for candidates sitting Intermediate 1 and Intermediate 2 Mathematics are entered, because if the wrong codes are used candidates may be issued with the wrong paper in the examination.

The code is X100 for units 1,2,3 and X101 for units 1,2 apps.

If centres are in doubt, they should consult the front of the Arrangements Documents, where the correct code can be found.

It is also essential that candidates are made aware of the code for the examination they are sitting, and for them to be advised to check that they have been issued with the correct paper at the start of the examination.

6 Presentations from recent Quality Network Events

Presentations from the March and November Quality Network Events have been uploaded to the SQA site and can be accessed from the Mathematics home page:

<http://www.sqa.org.uk/sqa/2464.html>.

The focus of the March event was on Intermediate 2 and Higher QP production, Examinations and Appeals. The November event focused on Improvement of Examination Performance for candidates at Intermediate 1, Intermediate 2, Higher and Advanced Higher.

7 Appeals

As centres are collecting and generating evidence in support of possible absentees and appeals, a number of issues which continue to arise each year are worth highlighting. Where evidence has already been gathered, centres may be

able to address the issues below by amending cut-off scores or estimates if necessary.

Firstly, centres are reminded that they should be referring to the detailed guidance contained in the document Estimates, Absentees and Assessment Appeals (EAAA).

Common failings continue to be:

- Inaccurate identification of sources of questions.

It is a requirement that centres identify the sources of the questions used in all evidence submitted to support an appeal, with the exception of a high-scoring NAB used to support an appeal at Grade C. When centres are compiling their information on sources of questions, they should include information on whether they have modified questions (for example, 2002 Q22 (modified)). centres should not identify modified questions as 'Centre Devised' unless the modifications are extensive enough effectively to make them new questions.

- A set of questions has been lifted en bloc from a past paper.

'Past paper' in this context includes both SQA and commercial sources. Whilst most centres use a minimum of three sources as required, and mix and match questions (making alterations where possible), there are some who use blocks of questions, for example all/most of the multiple choice questions from one paper and/or the mini-prelim/additional evidence all from one paper such as an SQA past paper or an old commercial paper.

- A commercially produced paper, used in its entirety, is not the current year's.

Centres are reminded that if they are using a commercially produced paper in its entirety, it must be the one for the current year. Centres are also reminded that SQA do not validate commercially produced papers. It is the responsibility of the centre to check that the assessment instrument sufficiently replicates the Course assessment and is of an appropriate level of demand, balance, etc, and that the marking instructions mirror SQA marking standards/mark allocations, etc. Centres should not assume that a commercially produced prelim is of a suitable standard even if the publishers include a statement to this effect.

- No evidence from the latter part of the course.

Centres are reminded that, at all levels, there must be evidence covering all Units (in the case of Standard Grade – evidence covering the appropriate range of topics). This applies to absentee as well as appeals cases. Appeals for Grades A and B must include evidence for the latter part of the Course beyond the level of demand of the NAB.

- Retention: insufficient tasks/questions set that require knowledge to be retained over an extended period of time.

The various models or types of evidence that could be used are given in the EAAA Guidance document. The case for an appeal is often strengthened by the inclusion of questions/integration of work from earlier Units in later assessments.

- Cut-off scores set too low for the standard set in the assessment instrument(s).

It is the centre's responsibility to make sure cut-offs are set appropriately. Centres must take into account factors that affect the cut-offs. Cut-off scores set too low often give unrealistic estimates and when the examiners judge the evidence they find that it is not compelling.

If the assessment instrument is less demanding, for example if it transpires that there are insufficient A Grade questions, or the assessment instruments are split (eg prelim + mini prelim) so that each assessment instrument tests only parts of the Course, then the cut-offs used should be raised.

Examiners encounter a number of cases where the centre does not aggregate the evidence submitted from a prelim and mini-prelim; sometimes, once the evidence is aggregated, the overall level of attainment does not support the grade being appealed for.

Using questions/tasks that candidates are likely to have seen without modification, for example questions from the papers contained in the most recent Past Paper book, is likely to make the estimate and evidence less reliable (see pages 22 and 24 of the EAAA document). If a high proportion of the questions used are 'in the public domain' then cut-off scores may need to be raised to account for this.

It is good practice to set cut-offs after the marking for a prelim has been done, rather than set the cut-offs in advance of candidates sitting a prelim. The centre can then use the expertise of the teaching staff, along with knowledge of the current and past cohorts, to analyse the performance of the learners and the level of demand of the questions - and thereby set realistic cut-offs.

- The marking scheme is too leniently applied.

Centres should ensure that marking schemes are in line with SQA's published guidance on marking. Lenient marking may mean that the cut-offs applied by the centre do not provide accurate estimates of performance.

8 Progression information

Progression information for Mathematics can be found in the appendix to this update letter.

I hope that all of the information above and attached has been of help to you. If you have any enquiries about NQ Mathematics, please do not hesitate to contact me via the details provided at the head of this letter.

Yours faithfully

A handwritten signature in black ink that reads "Elaine Riley". The script is cursive and fluid.

Elaine Riley

Qualifications Manager

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