



To the Management Authorities of Post-Primary Schools

Leaving Certificate Mathematics Examination 2013 – Arrangements for Phase 2 of *Project Maths*

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As you are aware, students who commenced the Leaving Certificate course in September 2011, for examination in June 2013, have been studying four of the five strands of the new syllabus in Mathematics. The arrangements for the examination of these candidates are given below, and the relevant sample papers are enclosed.

1. Administration of Candidate Entries for the 2013 Examination

Please note that all candidates, other than those in the Project Maths initial schools, should continue to be recorded under subject code 003 (Mathematics) for the purpose of entries for the certificate examinations. The alternative subject code 200, which makes reference to Project Maths, is reserved for candidates from the initial schools.

2. Structure of the Examination; Sample Papers

Higher Level and Ordinary Level

The examinations at Higher level and at Ordinary level will each consist of two written papers, each carrying 300 marks.

Paper 1 will test the material in Strand 3 and Strand 4 of the new syllabus, along with the unchanged part of the previous syllabus. There will be three sections on the paper, as follows:

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| ○ Section A: Concepts and Skills | 100 marks |
| ○ Section B: Contexts and Applications | 100 marks |
| ○ Section C: Functions and Calculus (old syllabus) | 100 marks |

Section C of Paper 1 will continue to test material from the unchanged portion of the syllabus, as detailed in Section C of the syllabus document issued by the Department of Education and Skills in September 2011. It will consist of two 50-mark questions, similar in content and style to the three questions that previously appeared on this content area, as illustrated on the enclosed sample papers.

Paper 2 will test the material in Strand 1 and Strand 2 of the new syllabus, along with material from Section 3.4 in Strand 3: *Length, Area and Volume*. There will be two sections on the paper, as follows:

- Section A: Concepts and Skills 150 marks
- Section B: Contexts and Applications 150 marks

In accordance with the footnote on page 22 of the syllabus, question 6 in section A will involve a choice between answering a question on the synthetic geometry set out in the syllabus, or answering a problem-solving question based on the geometrical results from the Junior Certificate syllabus at the corresponding level (2000 syllabus).

Both Paper 1 and Paper 2 will be presented as a combined question-and-answer booklet. Sample papers have been prepared, and ten copies are enclosed.

Foundation Level

The examination at Foundation level will consist of two written papers, each carrying 300 marks.

As a result of the experiences of candidates in the initial schools, the examinations at this level have been adjusted with respect to the balance between “Concepts and Skills” and “Contexts and Applications”. Accordingly, the mark allocations to the different sections at this level differ from those that applied in the Phase 1 examinations last year, and also differ from those on the Phase 2 examination in the Project Maths initial schools.

Paper 1 will test the material in Strand 3 and Strand 4 of the new syllabus, along with the unchanged part of the previous syllabus. There will be three sections on the paper, as follows:

- Section A: Concepts and Skills 175 marks
- Section B: Contexts and Applications 75 marks
- Section C: Functions and Calculus (old syllabus) 50 marks

Section C of Paper 1 will continue to test material from the unchanged portion of the syllabus, as detailed in Section C of the syllabus document issued by the Department of Education and Skills in September 2011. It will consist of one 50-mark question, similar in content and style to the question that previously appeared on this content area, as illustrated on the enclosed sample paper.

Paper 2 will test the material in Strand 1 and Strand 2 of the new syllabus, along with material from Section 3.4 in Strand 3: *Length, Area and Volume*. There will be two sections on the paper, as follows:

- Section A: Concepts and Skills 200 marks
- Section B: Contexts and Applications 100 marks

In accordance with the footnote on page 22 of the syllabus, question 8 in section A will involve a choice between answering a question on the synthetic geometry set out in the syllabus, or answering a problem-solving question based on the geometrical results from the Foundation Level Junior Certificate syllabus (2000 syllabus).

Both Paper 1 and Paper 2 will be presented as a combined question-and-answer booklet. Sample papers have been prepared, and ten copies are enclosed.

Please note that Paper 2 at Foundation level is no longer accompanied by a separate sheet of formulae. In common with candidates at other levels, candidates at Foundation level will be provided with copies of the *Formulae and Tables* booklet.

3. Booklet Format; Examination Stationery

As noted above, both papers at all levels will be presented as combined question-and-answer booklets. Candidates should write their answers on this booklet. However, candidates may use additional stationery if required. In common with the examinations in other subjects, supplementary four-page answer-sheets (horizontally ruled) will be available. Squared paper will also be available. Please note that there will be no change to the style of squared paper available on loose sheets in the examination. That is, supplementary paper ruled at 5 mm intervals will **not** be available.

As noted above, and as indicated in circular S56/09, Paper 2 at Foundation level is no longer accompanied by a separate sheet of formulae. In common with candidates at other levels, candidates at Foundation level will be provided with copies of the *Formulae and Tables* booklet.

4. Additional Examination Resources

As you may be aware, some schools have been working with draft versions of the new syllabuses two years in advance of all other schools. Accordingly, the State Examinations Commission has produced some additional examination material for use in these initial schools. This material is available on our website, www.examinations.ie, and may be of interest to teachers and candidates preparing for the 2013 examinations. Furthermore, a substantial amount of resource material for teaching and learning has been made available by the National Council for Curriculum and Assessment and the Project Maths Development Team. The materials produced by and available from the State Examinations Commission are as follows:

2010 Examination in the Initial Schools

Paper 2 of the examination taken by the candidates in the initial schools in 2010 continues to be of relevance (at all three levels). These papers are available in the *Examination Material Archive* on our website, alongside the other examination papers in Mathematics from 2010. As previously notified, caution should be exercised in the use of these papers in two respects:

- The structure of the examination was somewhat different from that which applies to all schools in 2013.
- At Higher and Ordinary levels, some of the material tested on these papers was subsequently removed from the syllabus or deferred until the examination of 2015.

Accordingly, the following questions from the 2010 papers are not relevant for 2013:

- At Higher level: part (a) of question 2; parts (c) and (d) of question 6; part (c) of question 9A.
- At Ordinary level: parts (c), (d), (e) and (f) of question 9A.

2011 Examination in the Initial Schools

Both Paper 1 and Paper 2 of the examination taken by the candidates in the initial schools in 2011 are of relevance (at all three levels). These papers are available in the *Examination Material Archive* on our website, alongside the other examination papers in Mathematics from 2011. Caution should be exercised in the use of these papers in the following respect:

- The structure of the examination was somewhat different from that which applies to other schools in 2013. In particular, the structure of Section C on Paper 1 is different from that which applies for 2013, as are the mark allocations to questions in Section B on paper 2.

2012 Examination in the Initial Schools

Both Paper 1 and Paper 2 of the examination taken by the candidates in the initial schools in 2012 are of relevance (at all three levels). These papers are available in the *Examination Material Archive* on our website, alongside the other examination papers in Mathematics from 2012. Caution should be exercised in the use of these papers in the following respect:

- The structure of the examination was somewhat different from that which applies to other schools in 2013. In particular, these papers correspond to Phase 3 of the project. Hence, Paper 1 at each level includes some material relevant to Strand 5 of the new syllabus and does not include a section for the corresponding content of the old syllabus.

Sample Papers Issued for the 2011 Examinations in the Initial Schools

The enclosed sample papers for Phase 2 of the project are amended versions of the ones that issued to the initial schools two years' ago for their examination in 2011. Whereas the majority of the content of these sample papers remains unchanged, some material has been replaced in order to illustrate some particular aspects of the syllabus or its assessment. Notwithstanding this, the content that appeared on the original versions used in the initial schools continues to be relevant. There is one exception: at Foundation level, question 6A on paper 2 of the sample papers that issued to the initial schools for the 2011 examination deals with content that was subsequently removed from that syllabus. This question is therefore not relevant to the examination of 2013.

These papers are available on our website under *Schools...Project Maths*, or by following the *Project Maths* link under "What's new" on the home page. These are subject to the same cautionary note as applies to the actual examinations of 2011 in the initial schools.

Trialling report

The comprehensive report on the trialling of the Phase 1 sample papers in the initial schools continues to be of relevance. The report includes model solutions, marking schemes, comments on the answering, exemplars of student work, and additional notes related to the assessment of candidate work. This report is available on our website under *Schools...Project Maths*, or by following the *Project Maths* link under "What's new" on the home page.

Feedback on the 2011 Examinations in the Initial Schools

The State Examinations Commission provided a feedback document to the National Council for Curriculum and Assessment and the Project Maths Development Team (PMDT) following the examination of Phase 2 of Project Maths in the initial schools in 2011. This feedback was subsequently made available to all teachers during Workshop 6 of the in-career development programme delivered by the development team. The document consists of a summary of the observations of the examiners, along with recommendations for teachers and candidates. It is available on our website under *Schools...Project Maths*, or by following the *Project Maths* link under "What's new" on the home page.

Please bring this circular to the attention of all relevant teachers and candidates. If you have any questions regarding the content of this circular, please contact Majella Smyth at 090 644 2759.

Yours sincerely,

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Higher Executive Officer
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