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From the President Lord Rees of Ludlow OM

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Our ref: MJR/RE



Future of GCSE Mathematics

I note the announcement by the Department for Children, Schools and Families (DCSF) on Friday 12th December concerning the future of GCSE mathematics. I am very pleased at the decision to pilot the pair of mathematics GCSEs that were devised by the Advisory Committee on Mathematics Education (ACME), and feel that this is a positive endorsement of the hard work of the mathematics community over a number of years.

The Royal Society has been pressing for the implementation of the recommendation in Adrian Smith's report *Making Mathematics Count*, which called for a second GCSE in mathematics, since its publication in 2004. We believe that a two-GCSE structure for mathematics offers the better option compared to a single GCSE, because it:

- More appropriately rewards the level of difficulty and the amount of work involved in the subject;
- More fairly rewards those at the lower end of the ability range and more effectively challenges those at the upper end;
- Will develop and assess skills not at present adequately developed;
- And, as such, it will improve the mathematical skills base of young people in the UK

Moreover, as one of the pair devised by ACME focuses on the applications of mathematics, there will be a benefit to the nation through a better equipped skills base. And with two GCSEs in mathematics, and the triple award for science, the government has the potential to signal a strong endorsement in the future science base of the UK.

While we welcome the decision to pilot the pair of GCSEs, I must raise our serious concerns over the timescales involved in their potential introduction. Should first teaching be in 2015, this would mean that there will be almost 9 more years before first awarding of the pair of GCSEs. Therefore, millions of students will continue to study a single GCSE which, compared to the pair, will not deliver as deep an understanding of mathematics. I would like to see as much pressure brought to bear as possible so that the introduction of the



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pair of GCSEs can be brought forward. It would be a mistake for the government to continue with a single GCSE any longer than is absolutely necessary.

I should also add at the end of the piloting of the pair of GCSEs, any model which retains the single GCSE as well as the pair would not be supported by the Royal Society. We believe the choice that this introduces will undermine any potential success for the pair, thus not addressing the concerns raised in Adrian Smith's report.

This is the best opportunity to rectify the long-standing problems facing mathematics GCSE. Even though it may seem a narrowly departmental issue, there is a widespread view in the scientific and engineering community that it is of crucial importance for the long-term competitiveness of the UK. We need to ensure that all our young people leave school with optimal mathematical competence, and that those progressing to higher levels of study are properly prepared. That is why I am venturing to write you personally, in the hope that your government throws its support behind the pair of GCSEs.

Yours sincerely
Martin Rees

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