

Welcome to our first GCSE *Maths Matters* update. It's designed to provide you with news, ideas and information about teaching GCSE Maths and to let you know about new developments. We hope you'll find it both interesting and useful. Please print or forward copies for members of your Maths department – and please do let us know if you have any comments or anything you'd like to see included in future updates. You can email us at maths@ocr.org.uk

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A new way forward

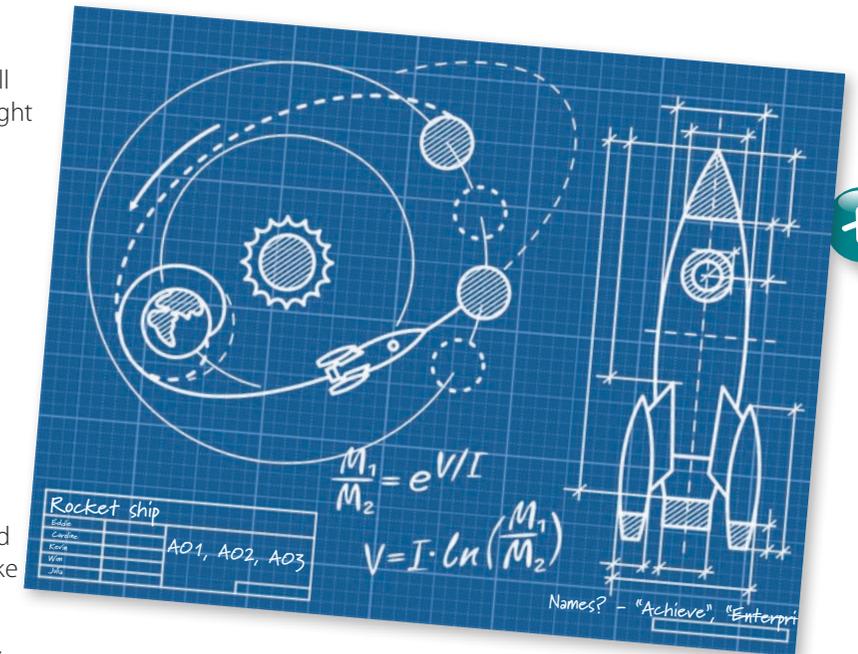
So, your Year 10 students will now be following the new Key Stage 4 programme of study and new GCSE Maths specifications. As you'll probably know, the headline change to the way GCSE Maths is taught and assessed is found in the new Assessment Objectives (AOs) – and these define questions that are asked by 'type' rather than by content area:

- **AO1 Recall and use knowledge of the prescribed content (45–55% weighting)**

These questions demand mathematical skills and techniques without the need to interpret a context or a problem.
- **AO2 Select and apply mathematics methods in a range of contexts (25–35% weighting)**

These questions are set in a context. They'll also look much the same as our current questions and may be directed or structured with a lead-in. In AO2 questions, students will often need to make a decision, selecting either a method, or data, or both.
- **AO3 Interpret and analyse problems and generate strategies to solve them (15–25% weighting)**

These questions may or may not be in context. They may be unfamiliar to students and will often be unstructured, non-routine and with an emphasis on thinking skills and strategy.



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Looking to make early entries?

A number of centres have asked about entering students for aggregation in an earlier series than the June of Year 11. This is possible, perfectly acceptable and increasingly common. However, because GCSE Maths has been revised for first teaching from September 2010, the legacy specifications will have final certification in January 2012, with first certification for the new specifications in June 2012 and for the new linked pair pilot in June 2011.

Please check out the table  for a summary of the specifications that can be certificated over the next three years. The new ones are shown in blue.

What about your 2012 students?

If your 2012 cohort – who'll have started a typical two-year GCSE course this September – are following either the new Maths A or B, they won't be able to certificate it 'early'. However, as shown above, there are three legacy specifications that do allow them to certificate GCSE Maths early:

1. **Legacy GCSE Maths A – J512** (linear), taking two papers
2. **Legacy GCSE Maths B – J519** (MEI), taking one modular paper and one terminal paper
3. **Legacy GCSE Maths C – J517** (graduated assessment), taking two module tests and one terminal paper

Please see the individual specifications and our Admin Guides for full entry details.



Because of the changes made to the subject criteria, no unit or component results from any legacy specifications can be used towards certification of any new Maths specifications or vice versa, ie **credit isn't transferable between different specifications.**

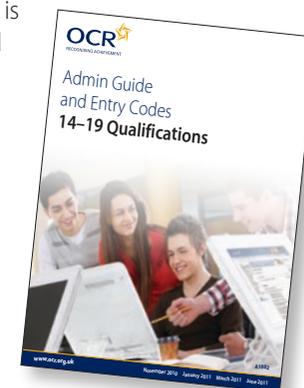
The new National Curriculum programme of study: how does it relate to legacy specifications?

The new Key Stage 4 National Curriculum programme of study has come into force from this September for students entering Year 10. If you're planning to follow and enter one of the **legacy** specifications, aiming for early entry, with this year group you'll need to offer the new National Curriculum to meet the statutory requirements if these apply to your centre (some types of centre are exempt from National Curriculum requirements). The new GCSE specifications have been approved by Ofqual as meeting the requirements of the new programme of study, but the legacy specifications meet the requirements of the previous version.

What does this mean in practice?

A centre would have to demonstrate, eg to parents, governors and Ofsted, that it's offering the new programme of study, including the key concepts and key processes, if the centre is required to offer the National Curriculum and isn't following a new GCSE specification.

If you need further advice about early entry, please contact the Maths team on **0300 456 3142** or **maths@ocr.org.uk**





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Helping you with the challenge

We recognise the challenge centres face in preparing students for AO3, which is why we've developed this range of support materials to help you.

AO3 Problem Solving Guide

The guide includes details of what AO3 is, and the demands of the assessment. It also contains a series of teaching resources – ideas rather than lesson plans. There are seven extended cases with ideas for short and long activities and three cases with individual activities. The guide also includes worked example answers to AO3 questions, and how the responses could be marked.

The *AO3 Problem Solving Guide* is **FREE** to all centres, whatever specification you're teaching, and can be found on our website.

Problem Solving Tasks Pack

This pack consists of a number of tasks that can be printed or projected. They've been carefully developed and trialled by The School Mathematics Project in partnership with us and are intended to be embedded into a scheme of work over time. They're not practice exam questions but are tasks to help students develop the mental flexibility they need for the new elements in the exams.

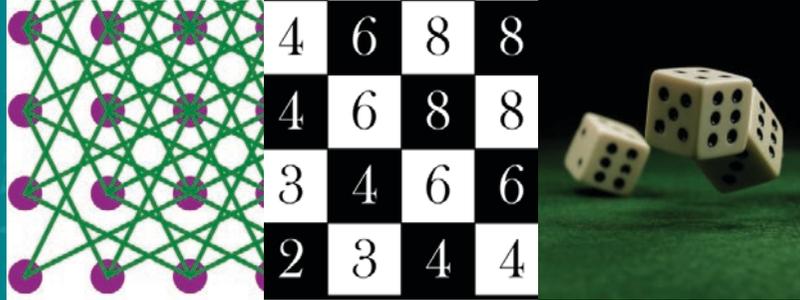
Like the *AO3 Problem Solving Guide*, the *Problem Solving Tasks Pack* is **FREE** to all centres, whichever specification you're teaching, and is available on our website.

Practice questions

These questions are taken from past papers of the pilot GCSE Additional Mathematics. This pilot specification proved hugely popular with centres, and was fully subscribed with 10,000 students taking the paper in 2008 and 2009. The papers include AO3-style questions, and a single paper covers all grades from G to A*. Each part of a question is designed to build on the previous parts and to step up in demand. The aim is that students of all abilities can attempt at least a part of each question and that the final parts of some questions will provide a suitable challenge for the most able mathematicians.

There are June and January papers from June 2007 to June 2009. **FREE** to all centres, you'll find these past papers on our website.

June and January papers



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Further support

Try our free results service 

The Active Results service been developed in close consultation with teachers so that its exciting technology delivers what you need, usefully. Piloted since December 2008, it's had some excellent feedback.

So how can it help you?

Well it's a free results analysis service to help you review the performance of individual candidates or whole schools. In a departure from similar systems, Active Results takes into account value-added progress measures to give a more accurate measure of your centre's achievements by including important learner information such as background and prior achievement.

Devised specifically for the UK market, data can be analysed using filters on several categories such as gender and other demographic information, as well as providing breakdowns of results by question and by topic.

Active Results allows you to look in greater detail at your results:

- You can access richer and more granular data, including question-level data available from e-marking.
- It links candidate data available from us (grades, marks, question level) with national data already available to you.
- It identifies strengths and weaknesses of individual students and your centre's cohort as a whole.

You can watch a demo video and find out more at 

Have you been on this FREE training event?

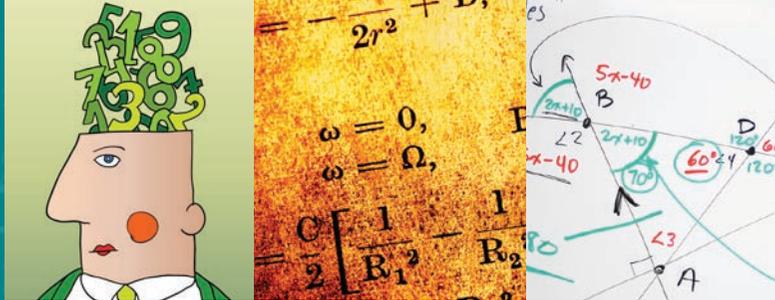
OCR GCSE Mathematics A and B (J562/J567):
Get started – planning for first teaching

We've had some great feedback about this course, which has been running across the country since January. In case you haven't yet made it to one of these free half-day events, we've added more dates and venues for the autumn term. It's a useful course that will give you a good overview of the two new specifications, looking at the structures, content and Assessment Objectives, as well as providing the opportunity to find out about the support, resources, benefits and practical ways of addressing AO3 in the classroom.

Training for GCSE Mathematics A and B (J562/J567):
Get started – planning for first teaching

For information on additional training available visit   OCR Eventbooker





Check them out – a quick guide to our two new specifications

With our two new GCSE Maths specifications now being taught, here's a quick overview of some of the main points you need to know about them. There's more on our website.

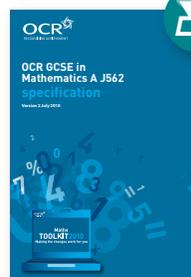
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GCSE Mathematics A (J562) – is our new flexible, unitised (modular) specification, which has three units.

- The **assessments can be spread out** over the course or all taken at the end in a linear fashion.
- **There's a choice** of tier for each unit and these can be mixed across the qualification.
- **Students can re-sit** each unit once before certification.
- Assessment with a calculator has a weighting of **75%**.
- Assessments are available in **November, January** and **June** of each year; assessments are available from **November** 2010 and certification from **June** 2012.

To help keep students engaged, all three units have been carefully created to address all the content areas. Units A and B are designed to be taken earlier in the course (and possibly together) and the content selected for them reflects this. The content of Unit C builds on the concepts studied in Units A and B.

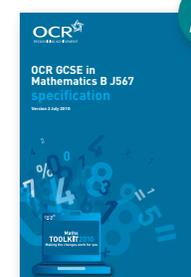


GCSE Mathematics B (J567) – is our new linear specification.

- A linear scheme gives you the **freedom to plan** your own programme of study, linking topics however you choose.
- There's a **reduced assessment burden** for students, with no modules to revise for part-way through the course.
- Assessment with a calculator has a weighting of **50%**.
- Assessments are available in **November, March** and **June** of each year from **June** 2012.

The specification content is presented in stages within each tier. These allow you to give different groups different starting points in the course and to target the level appropriately. Stage Tests and Stage Certificates are available from OCR Interchange for tracking and rewarding progress upwards through the course.

If you're interested in using the stages to deliver the course, please see the Teachers' Handbook and the sample schemes of work on the Mathematics B qualification page. If you want to plan the topics in an order of your own choosing, please look at the contents list in the Appendix to the Mathematics B specification.



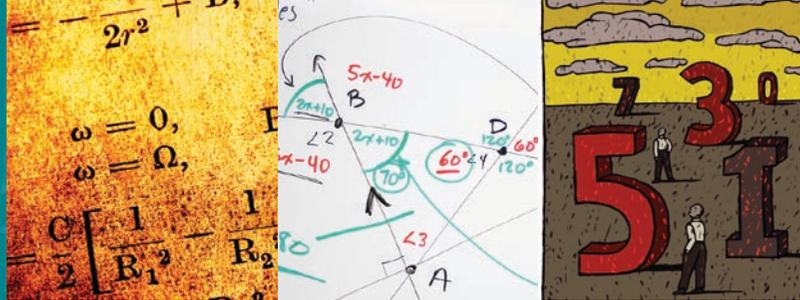
Want to know more?

For more information about either of these specifications and the support materials, including sample schemes of work, please visit www.ocr.org.uk/maths/2010



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Maths in the real world

Our linked pair GCSE Maths pilot is designed to be inspiring, motivating and challenging. Developed in conjunction with QCDA, it comprises GCSE Applications of Mathematics and GCSE Methods in Mathematics. Between them, the two cover the Key Stage 4 programme of study for Maths. Each is distinctive and contains some extra content to the single Maths GCSE. They began first teaching this September and first certification will be in June 2011, with assessments available from January 2011. Students will need to enter both **Applications of Mathematics** and **Methods in Mathematics** and, if successful, they'll gain two GCSE qualifications.

An exciting approach

The **Applications of Mathematics** GCSE focuses on using maths in real-world situations, including financial and statistical applications. The **Methods in Mathematics** GCSE focuses on mathematical reasoning and analysis. Together they provide opportunities for students to see how maths works in the real world and to engage in conceptual thinking. They aim to improve attitudes towards Maths and to inspire young people to study the subject beyond GCSE.



What are the benefits of the linked pair?

- Students will be well prepared for studying Maths at Level 3.
- With students able to achieve two GCSEs, there'll be more recognition of Maths in line with English and Science.
- GCSE Applications of Mathematics will encourage students to develop problem-solving and modelling skills in mathematics and the knowledge, skills and understanding of mathematical and statistical methods, techniques and concepts.
- GCSE Methods in Mathematics will help you bring maths to life by encouraging students' awareness of the links between different areas in mathematics and promoting the skills of logical reasoning and mathematical argument and proof.

Be part of our linked pair pilot

Up to 100 centres can join our linked pair pilot, so if you'd like to take part, please register your interest if you haven't already done so. You can do this by emailing us at LinkedPairMaths@ocr.org.uk with your centre number, a contact name and a centre email address.

LinkedPairMaths@ocr.org.uk

For more information about the linked pair pilot, please visit www.ocr.org.uk/maths/2010

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Meet the team

Some of you may already have met the highly experienced members of our GCSE Maths team. If not, please do come and say hello if you see them at an event or a meeting. They're also happy to answer queries about any of our specifications. You can reach them on **0300 456 3142** or **maths@ocr.org.uk**

Eddie Wilde – Qualifications Team Manager, Maths

Eddie has overall responsibility for all our Mathematics qualifications. He's worked with QCDA and other stakeholders in developing the criteria for new qualifications, and has kept teachers and other stakeholders up to date with the changes with presentations across the country. Eddie's also responsible for our linked pair GCSEs in Applications of Mathematics and Methods in Mathematics. He has a wealth of experience to draw on in developing our new Maths specifications, especially innovative pilots.

Caroline Hodgson – Qualifications Manager, legacy GCSE Maths A and pilots and the new GCSE Maths A

Caroline manages the legacy linear and pilot specifications. She's also led the development, accreditation and now the management of our new unitised Mathematics A specification. Caroline launched the new specification at our EXPO events across the country in summer 2009, introducing it along with the specimen papers and support materials.

Kevin Smith – Qualifications Manager, legacy GCSE Maths C and the new GCSE Maths B

Kevin's responsible for the legacy graduated assessment and the new linear specifications, taking the new Maths B specification through development and accreditation and into the classroom. He's met and presented to Maths teachers at our EXPO events, INSET events and Local Authority meetings.

Wim van Trotsenburg – Qualifications Leader, legacy GCSE Maths B and Entry Level Maths and FSMQs

Wim's responsible for the legacy MEI GCSE specification, Entry Level Maths and the Free Standing Maths Qualifications (FSMQs): Foundations of Advanced Mathematics (MEI) and Additional Mathematics. If they're new to you, you can read about FSMQ Additional Mathematics and Entry Level Mathematics on the following page.

Julia Williams – Curriculum Manager, Maths

Julia works in our Sales and Marketing Division. As Curriculum Manager, she travels across the country – meeting teachers at Local Authority meetings and presenting for us at conferences. Julia listens to feedback from teachers about the Maths qualifications they're using and shares it with the Maths team to help with developments.

Engage with other teachers and the Maths team on our social network.



Eddie



Caroline



Kevin



Wim



Julia



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Above and below GCSE

Looking for qualifications other than GCSEs? Then here's some information about two you might find useful for your students...

Free-Standing Mathematics Qualification (Advanced) – Additional Mathematics (6993)

Our Advanced FSMQ provides students with an introduction to the maths in AS and A Level GCE modules. It's designed for those with a thorough knowledge of the content of the higher tier and who should have achieved, or be expected to achieve, a high grade at GCSE.

The content covers four areas in pure maths:

- Algebra
- Coordinate geometry
- Trigonometry
- Calculus

Each of these is used to support a topic from a recognised branch of applied maths.

The assessment is by a single two-hour exam in the summer of each year, with grades A, B, C, D, E or U available. There's no coursework. As an Advanced Level FSMQ, it carries UCAS points (grade A 20 points, grade B 17 points, grade C 13 points, grade D 10 points, grade E 7 points), as well as school performance table points.

A range of support materials

It's supported by a textbook produced by Hodder Education, *Additional Mathematics for OCR* by Val Hanrahan (ISBN 0-340-86960-7). Visit www.hoddereducation.co.uk, email educationenquiries@hodder.co.uk or call **020 7873 6000** to find out more about this textbook. Further support is available through MEI at www.mei.org.uk

www.hoddereducation.co.uk



www.mei.org.uk

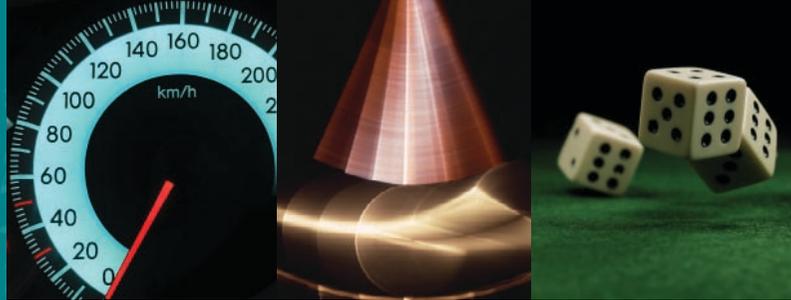


To find out more about the qualification, please visit www.ocr.org.uk/maths and click on Free-Standing Maths Qualification (FSMQ) Additional Mathematics.



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Entry Level Certificate – Mathematics (R448)

Our new Entry Level Maths specification is aimed at students working at National Curriculum Levels 1 to 3. It's for those who may not be ready for a GCSE, or would benefit from reinforcing basic maths skills while studying towards the GCSE. The course includes an optional Progress Profile that allows you to monitor students' progress through the course.

Support



What about assessment?

The assessment of the course is through four tests: two written, one aural and one practical. These can be downloaded securely from OCR Interchange and taken whenever the learner is ready for them. The aural test and the preliminary written test are designed to be taken earlier in the course if schools wish to spread out the assessment over time. Teachers mark the tests and can offer students feedback and re-sits of a different version of the tests if necessary. When we receive final entries, we'll ask for a sample of the marked work, moderate it, and award grades to students.

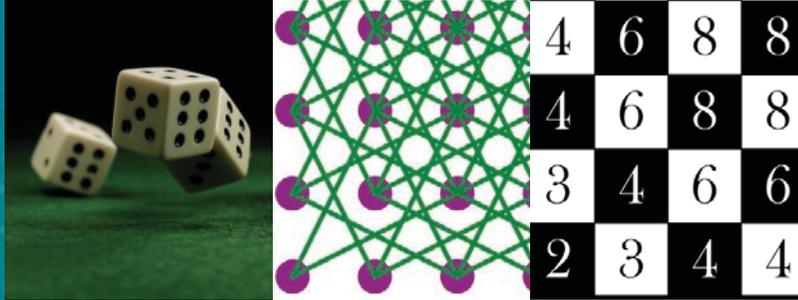
It's supported by a textbook, *Entry Level Mathematics* by Christine Watson and Heather West (ISBN 0-340-80163-8), and online resources produced by Hodder Education and endorsed by us. Visit www.hoddereducation.co.uk email educationenquiries@hodder.co.uk or telephone 020 7873 6000 to find out more about these resources.

www.hoddereducation.co.uk



For more details about the qualification, please visit www.ocr.org.uk/maths and click on Entry Level (for 2010) Mathematics.





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A word from our publisher partners

Why the Oxford/OCR partnership will make a real difference to your exam results

We know your students need lots of basic practice, but the crucial difference with the new GCSEs is that students must be given the *right kind* of practice to succeed.

The new AO2 and AO3 exam questions are different, being much more context-based and focused on problem solving, and also including assessment of Quality of Written Communication (QWC). Students will need plenty of practice dealing with these broader, more extended questions, which we have been able to provide because our resources are created in partnership with OCR.

Oxford GCSE Maths for OCR provides a vast amount of this more substantial practice not only in the student books but also in the practice books and on the OxBox CD-ROMs (which include lots of auto-marked assessments to make your life much easier!). In addition to this, the Oxford resources clearly indicate levels of demand so students can see how they are progressing.

Oxford resources are also good for planning, with clear, legible pages and a spread-per-lesson arrangement making them especially easy to manage in the classroom, and to fit in with your schemes of work. If you would like more information, please contact Oxford University Press on **01536 741068**, or schools.enquiries.uk@oup.com



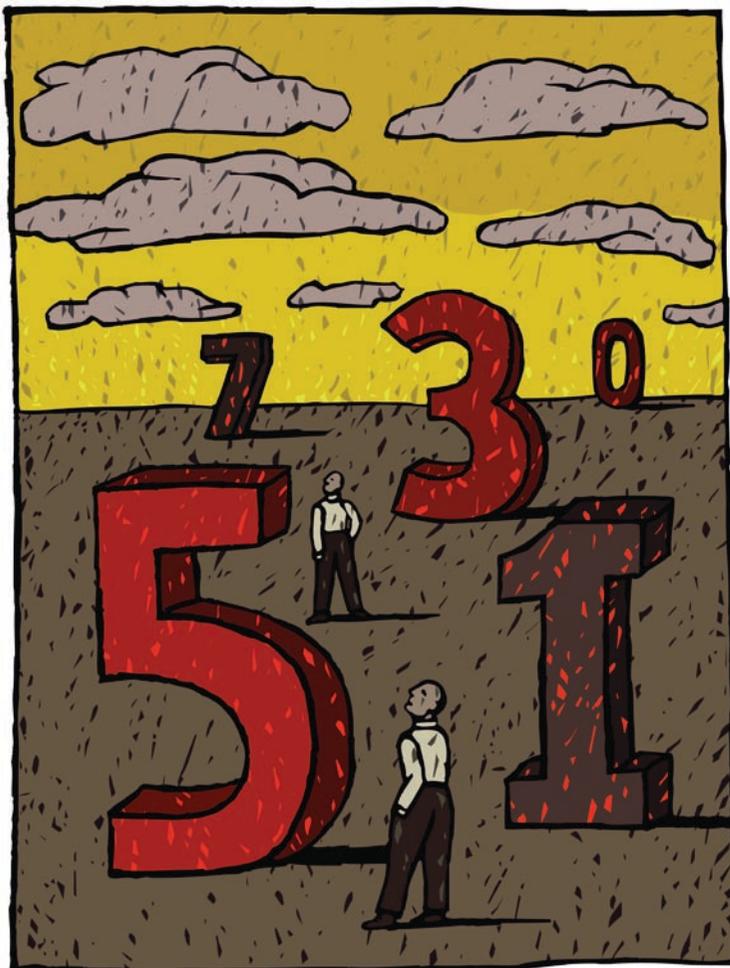
Hodder Education: OCR Mathematics for GCSE B

Hodder Education's resources fully support students' preparation for the two linear exams (calculator and non-calculator) and enable you to effectively assess attainment across the entire Foundation and Higher tiers.

- The *only* resources that support all six stages of the new OCR Mathematics B course
- Developed in partnership with OCR – ensuring a perfect match to the 2010 specification
- Comprehensive printed and digital resources to support and guide students whatever level they are learning at
- Written and edited by an experienced team of examiners and teachers with the expertise of delivering OCR GCSE courses
- Supported by Dynamic Learning to provide you with online access to interactive tutorials and assessment – featuring automatically marked tests and bespoke reports.

Get a free e-book! Visit www.hoddereducation.co.uk for more details on how your students can get free e-books for this course.





AS/A Level GCE (current)

Mathematics
 Mathematics (MEI)
 Statistics MEI (AS Level only)

Basic Skills (Skills for Life)

Adult Numeracy: Entry Level Certificate
 Adult Numeracy: Level 1 and 2 Certificates

Entry Level (current)

Mathematics A
 Mathematics B

Entry Level (for 2010)

Mathematics

Essential Skills Wales

Application of Number

Free Standing Maths Qualification (FSMQ)

Additional Mathematics
 Foundations of Advanced Mathematics (MEI)



Functional skills (for 2010)

Maths Entry Level
 Maths Level 1
 Maths Level 2



GCSE (current)

Mathematics A
 Mathematics B (MEI)
 Mathematics C (Graduated Assessment)



GCSE (for 2010)

Applications of Mathematics (Pilot)
 Mathematics A
 Mathematics B
 Methods in Mathematics (Pilot)



Key Skills (Skills for Life)

Application of Number/Cymhwys Rhif Levels 1 - 4



Other General Qualifications

Mathematical Techniques and Applications for Engineers Level 3 Certificate
 Mathematics for Engineering Level 3 Certificate

www.ocr.org.uk

OCR customer contact centre

General qualifications

Telephone 01223 553998
 Facsimile 01223 552627
 Email general.qualifications@ocr.org.uk

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