

## Your guide to AQA's GCSE Mathematics (Linear) 4365

### For first teaching from September 2010

- 2 papers: 60% calculator, 40% non-calculator
- Free resources, including *AQA All About Maths* and *Exampro* software
- Free online, phone and face-to-face support, including your own Maths Adviser
- Clear and simple structure and content

# Choose the best route to success

Our GCSE Maths (Linear) specification includes more emphasis (50%) on applying mathematics, process skills and problem solving, as well as introducing functional elements of mathematics.

## A new linear specification

We're proud of our long-established tradition of listening and responding to teachers' needs. We therefore developed a new specification for GCSE Mathematics that preserves the traditional virtues of the linear approach.

## Tried and tested solutions

AQA was chosen by QCA (now QCDA) to pilot the new GCSE and Functional Maths as part of the Curriculum Pathways Project, along with Leeds University. We worked together with over 300 schools and 40,000 students to trial and refine our new specifications.

After two years of extensive pilots, we gained a deep understanding of what is expected of teachers and students in order to fulfil the new Assessment Objectives.

We used that knowledge and experience to design a linear specification, assessments, teaching strategies and resources that are proven to work in the classroom.

## A tradition of support

Teachers trust AQA to deliver consistent and comprehensive support and tell us that it makes a real difference. We are committed to maintaining that tradition and have designed exciting new resources and support features to help you deliver this specification successfully.

## The UK's favourite exam board

Twice as many GCSE students sit AQA examinations than those of any other awarding body.

*'There's a big challenge facing Mathematics departments and AQA are providing the support that we need.'*

**Martin Shepherd, Head of Maths, Ashlawn School and Science College**



To find out more about our GCSE Maths (Linear) specification, visit [aqa.org.uk/mathszone](https://www.aqa.org.uk/mathszone) and you can sign up to teach at [aqa.org.uk/signupmaths](https://www.aqa.org.uk/signupmaths)

# AQA's linear specification at a glance

The full specification is available online from AQA's Maths Resource Zone at [aqa.org.uk/mathszone](http://aqa.org.uk/mathszone)

The subject content is organised into three broad topic areas:

- number and algebra
- geometry and measures
- statistics and probability.

## Assessment Objectives (AOs)

	Examination papers assess learners' ability to:	Overall weighting
AO1	recall and use their knowledge of the prescribed content	45 – 55%
AO2	select and apply mathematical methods in a range of contexts	25 – 35%
AO3	interpret and analyse problems and generate strategies to solve them	15 – 25%

## Functional Skills

The functional elements of mathematics are embedded in this specification. Accordingly, some questions in each paper will assess the functional elements of the subject, as follows:

Higher tier 20 – 30%  
Foundation tier 30 – 40%

The functional elements focus on the following key processes.

- **Representing** is about understanding 'real-world' problems and selecting the mathematics to solve them.
- **Analysing** involves applying a range of mathematics within realistic contexts.
- **Interpreting** requires communicating and justifying solutions and linking solutions back to the original context of the problem.

## Grading

<b>Foundation tier</b>	grades C – G available
<b>Higher tier</b>	grades A* – D available (E allowed)

## The Scheme of Assessment

At both tiers the specification has two question papers, which cover all assessment objectives and are taken in the same examination series, in January or June, starting in June 2012. All content and assessment objectives within a particular tier may be assessed on either paper. All questions are compulsory.

### Paper 1

Written paper (no calculator)  
40% of the assessment

<b>Foundation tier</b>	1 hour 15 mins	70 marks
<b>Higher tier</b>	1 hour 30 mins	70 marks

### Paper 2

Written paper (calculator allowed)  
60% of the assessment

<b>Foundation tier</b>	1 hour 45 mins	105 marks
<b>Higher tier</b>	2 hours	105 marks

The specification, specimen question papers and mark schemes are available to download from [aqa.org.uk/mathszone](http://aqa.org.uk/mathszone)



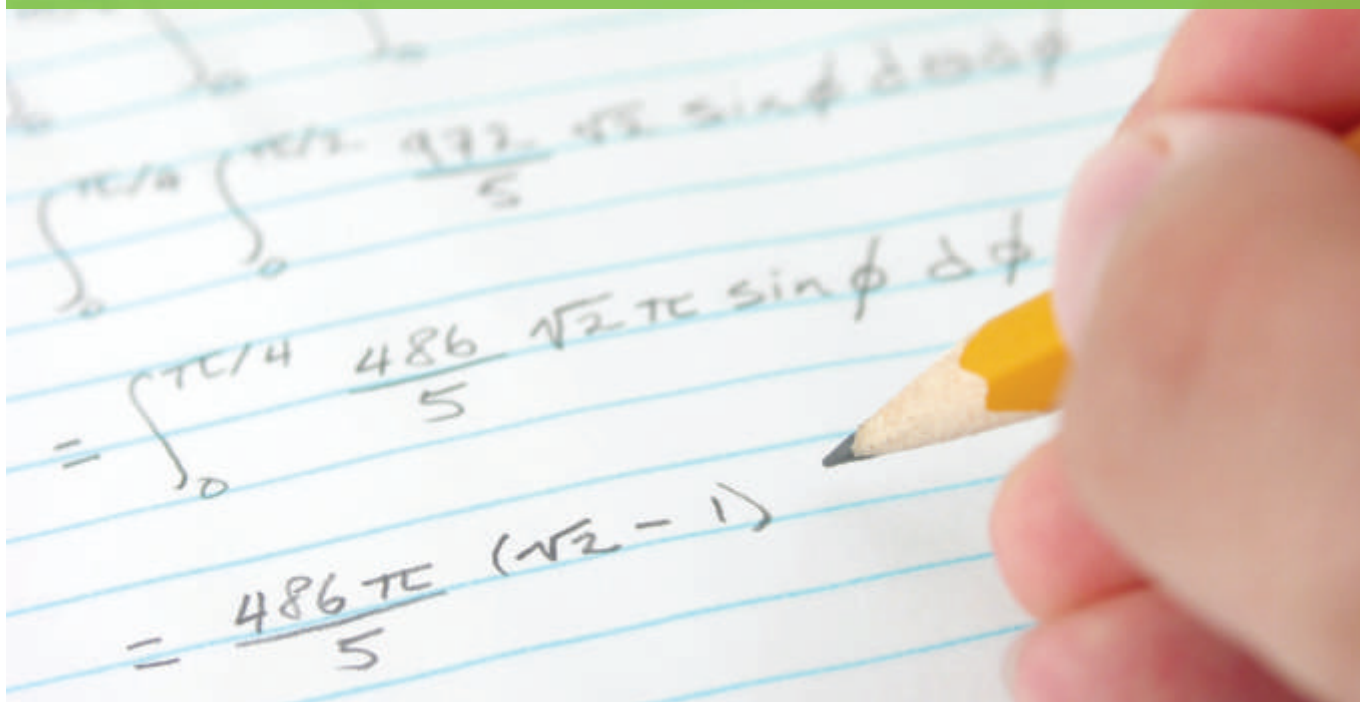
# Benefits for teachers and students

You're in safe hands with AQA – we've used our substantial pilot experience to design a linear specification that will give you and your students the best chance of success.

## See your students succeed with our linear specification

- **Examinations** allow use of a calculator for 60% of the assessment.
- **No question paper** is longer than two hours. The overall assessment time is:
  - Foundation tier: 3 hours
  - Higher tier: 3 hours 30 minutes
- **Relevant** mathematical knowledge and applications are the focus of this specification. We understand how to link maths to the real world and encourage a teaching approach that is enriching and engaging for all learners.
- **Clear** question papers make maths accessible at all levels of ability.
- **Students have time** to develop proficiency and a mature understanding of maths before being assessed. Their problem-solving strategies and confidence in using skills when tackling unfamiliar challenges can develop fully over the course.
- **A holistic approach** encourages students to see connections, apply their knowledge, reason mathematically and communicate clearly across different topic areas within the subject.
- **Gateway to further study:** this specification gives students a thorough grounding for A-level Mathematics and ensures that they have recent experience of all areas of the curriculum before advancing.

Our GCSE Maths (Linear) specification has more free online resources than ever before – see page 7 for details of *AQA All About Maths* and Enhanced Results Analysis.



- **Clear and straightforward** specification structure and thoroughly researched resources minimise administration and allow you to concentrate on teaching
- **Freedom to teach** mathematics as a coherent subject in the order and with the curricular approach of your choice
- **An unrivalled package of support and resources** to help you to navigate the big changes in maths with the least disruption
- **Pilot-approved, comprehensive** resources make it easy to deliver the new specification
- **Personal support** from the AQA team, including your own Maths Adviser and direct access to AQA's Maths Subject Team
- **Affordable** and good-value – FREE resources and support
- **Flexibility** – this GCSE is designed to be taken over a one- or two-year course of study and allows Functional Maths or GCSE Statistics to be incorporated easily into a course.

*'AQA are much closer than any other exam board to what's going to happen in 2010... AQA know what they're doing.'*

**Leanne Williams, Subject Leader of Mathematics, Vyners School, Middlesex**

We are an independent registered charity, with no shareholders, so all our income is used to run our examinations and carry out research and development to improve our qualifications and services.

# Content and questions

## Content

Our specification combines a straightforward, linear structure with content that reflects the required change of emphasis in mathematics teaching, as set out in the revised Key Stage 4 Programme of Study. This demands an increased focus on:

- applying mathematics in context
- problem solving
- reasoning
- the functional elements of mathematics.

When developing this specification, we consulted teachers and members of the wider mathematics community, including subject associations.

**You told us** about the importance of sound technique in working with numbers and understanding fractions, decimals, percentage and basic ratio.

**We listened** and incorporated these techniques across both examination papers and across both tiers. Students have opportunities to apply these fundamental skills in a variety of ways, which may

be in real-world, everyday contexts, statistical problems or more abstract, mathematical scenarios. Our approach also builds on Key Stage 3 mathematics and cross-curricular initiatives on thinking skills and independent working.

## Style of questions

The changes to maths GCSEs require a different style of question from that of the previous GCSE Mathematics linear specification.

Taking part in our pilots has equipped our examiners with the insight and knowledge to design questions that properly test the new Assessment Objectives and functional elements of maths.

The questions are written in a clear and simple way, according to our Plain English policy, with student-friendly language and layouts, to help students achieve their full potential.

You can download the linear specification, specimen question papers and mark schemes from our website [aqa.org.uk/mathszone](http://aqa.org.uk/mathszone)

## Improved results

Compared with students who sat the AQA GCSE Maths, students who sat the GCSE Maths pilot **performed 32% better** when answering the type of questions that comprise 45 – 55% of the new GCSE assessments.

This compares to a 1% difference achieved by the same students for all other questions common to both exams, which suggests that the two cohorts were of a similar level of ability.

**AQA June 2009 GCSE Maths assessment**

To teach the AQA GCSE Mathematics (Linear) specification and access even more resources and support, go to [aqa.org.uk/signupmaths](http://aqa.org.uk/signupmaths)

# Support and resources

## Support

Teachers trust AQA to provide reliable and proven support, services and resources. We offer a wide range of **free** resources and support for GCSE Maths, including:

- **a dedicated maths website:** [aqa.org.uk/mathszone](http://aqa.org.uk/mathszone)
- **linear and unitised specifications**
- **specimen question papers** and mark schemes
- **direct access** by phone and e-mail to our Maths Subject Team (no call centres)
- **training and events** – we regularly provide training and events including regional meetings, on site support and CPD. Please check our online booking system, [events.aqa.org.uk/ebooking](http://events.aqa.org.uk/ebooking) for dates and availability.
- **Personal guidance and advice**, whenever you need it, from a Maths Adviser assigned to your school. (You can also arrange bespoke training in your school, please e-mail: [cpdonsitesupport@aqa.org.uk](mailto:cpdonsitesupport@aqa.org.uk))

*'There's always been somebody on the end of a phone and usually a mathematician, which has been very useful.'*

**Sarah Atherton, Head of Maths, St Benedict's School, South Warwickshire**

*'The resources have been brilliant.'*

**Leanne Williams, Subject Leader of Mathematics, Vyners School, Middlesex**

## AQA All About Maths

AQA *All About Maths* is an interactive one-stop shop and online community site for AQA's GCSE Maths teachers. You can access resources including lesson plans and interactive teaching aids, and get ideas for starters and homework sheets. The site also provides:

- **Assessment guidance:** specifications broken down into teaching topics, with a recommended **teaching order** and **suggested teaching time**
- **Practice question papers** and mark schemes
- **Mock Exams Analyser** to analyse student performance when using past papers as mock exams
- Free access to **Exampro** to create your own practice question papers in minutes, from a library of hundreds of past questions, model answers, mark schemes and examiners' comments
- **Lesson plans** and other new and **innovative supporting resources**, including **homework sheets** and PowerPoints
- **Personal storage area** for adding, organising and adapting resources
- **Discussion page:** forum for all AQA Maths teachers to share problems, ideas and knowledge.

## Enhanced Results Analysis

Enhanced Results Analysis is an easy-to-use, online tool that provides instant, clear and simple analysis of how your school, subject, class and individual students performed. It's already used by over 35,000 teachers to:

- analyse performance by skills and topics
- identify strengths and weaknesses
- identify problem areas for teachers and students.





# What to do next...

## Get free advice now

If you want to know more about our linear specification, our services or the changes in GCSE Maths, you can:

- **go to our** Maths Resource Zone to see the specification and specimen question papers, download **free** resources, access *AQA All About Maths*, view the demo for Enhanced Results Analysis and our on-screen progress tests at [aqa.org.uk/mathszone](http://aqa.org.uk/mathszone)
- **Ask AQA**: search our 24-hour, online bank of questions and answers or contact us for a personal answer (within two working days), at [aqa.org.uk/askaqa](http://aqa.org.uk/askaqa)
- **talk directly** to one of our experts in the Maths Subject Team – phone 0161 957 3852 or e-mail us at [mathematicsgcse@aqa.org.uk](mailto:mathematicsgcse@aqa.org.uk)
- find out about all other maths qualifications and discover the best route for your students with our interactive **Maths Pathfinder** at [aqa.org.uk/maths](http://aqa.org.uk/maths)

## Sign up to teach

Signing up to teach\* enables us to provide you with support and resources to help you teach this specification. We offer **free** resources to all schools who teach our GCSE Maths:

- answers to your questions with **FREE advice** from your own Maths Adviser
- **FREE, online, interactive resources, with AQA All About Maths**
- more **FREE practice question papers** and **mark schemes**
- monthly e-mail updates to keep you informed

To get access to all of the above, please sign up to teach\* at [aqa.org.uk/signupmaths](http://aqa.org.uk/signupmaths)

\*Signing up to teach will enable us to provide you with support and resources. It does not replace the Entries Procedures. You still need to make entries for each student for each exam series.

