



Mathematics AQA GCSE Mock Revision Summary List – Foundation Tier

Year 11 – November 2024

Mock Paper Details

Mathematics paper 1: Topics
Non-calculator paper

- Written exam: 1hr 30 minutes
- 80 marks
- 50% of Autumn Mock

Mathematics paper 2: Topics
Calculator paper

- Written exam: 1hr 30 minutes
- 80 marks
- 50% of Autumn Mock

Topics will be selected from the following list and may be on either or both of the papers

- Use BIDMAS when working out calculations and when substituting into formula and algebraic expressions.
- Understand and use the symbols $>$ $<$ \leq \geq .
- Order fractions/decimals and percentages.
- Solve algebraic equations using the balance method including those with brackets and where the unknown is on both sides of the equation.
- Substitute integers, decimals and fractions into equations and algebraic expressions.
- Re-arrange equations and formula (change the subject).
- Know the difference between an identity and a formula.
- Plot straight line graphs using coordinates and/or equations of straight lines and also quadratic graphs.
- Recognise and know special sequences.
- Deduce and use nth term rules for linear sequences.
- Deduce nth term rules for simple quadratic sequences.
- Recognise arithmetic and geometric sequences.
- Convert between fractions and decimals and percentages.
- Work with whole numbers (integers) and factors and multiples and square numbers
- Complete calculations with fractions.
- Complete calculations involving integers, money, time, ratio and percentages and decimals.
- Interpret scales on maps and scale drawings.
- Use and solve ratio problems in a variety of contexts.
- Solve problems involving direct proportion and inverse proportion using associated formula or graphs.
- Work out the best value for money in a given situation.
- Round numbers to a given number of decimal places and significant figures.
- Estimate calculations.
- Work out the upper and lower bounds for numbers that have been rounded.
- Complete and use probability diagrams (sample space diagrams) to work out probabilities.
- Calculate expected outcomes in probabilities given probability data.
- Know and use the three measures of average and the measure of spread/consistency (mean, median, mode and range).
- Convert between different metric measures.
- Solve simple problems involving time.
- Complete journey based problems involving speed, distance and time.
- Know and use basic angle facts including angles in triangles, angles around a point, angles on a straight line and angles in parallel lines.
- Use angle facts to solve geometrical problems.
- Solve problems involving interior and exterior angles in polygons.
- Recognise special quadrilaterals and now and use angle properties of these quadrilaterals.
- Be able to sketch and recognise nets of common 3D shapes.
- Know and use Pythagoras theorem in a variety of contexts.
- Plot and use coordinates on a coordinate grid.
- Interpret graphs and charts such as bar charts, scatter graphs, frequency polygons, charts and real-life graphs.
- Simplify expressions in algebra and expand single brackets.

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- Simplify algebraic expressions with indices.
- Factorise algebraic expressions.
- Use formula for volume of 3D shapes.
- Use formula for the volume and surface area of prisms.
- Expand double brackets in algebra and solve related equations.
- Complete calculations with negative numbers.
- Complete calculations involving money such as bills and bank statements and work with percentages.
- Solve other financial problems where profit and loss is mentioned.
- Calculate fractions of amounts.
- Use inequality symbols with integers and solve inequalities.
- Understand and calculate with number in standard form.
- Know and use the rules of indices.
- Carry out calculations related to compound interest and simple interest and repeated percentage change such as for growth and decay problems.
- Complete calculations involving percentage increases and decreases, writing one number as a percentage of another.
- Understand and use percentage multipliers.
- Use reverse percentages to calculate original amounts.
- Understand what factors, multiples and prime numbers are.
- Be able to work out the highest common factor and lowest common multiple of a set of numbers.
- Use factor trees to write a number as the product of its prime factors.
- Construct and interpret two-way tables.
- Produce frequency and grouped frequency tables for a set of data.
- Calculate averages from frequency and grouped frequency tables.
- Compare two sets of data using statistics about the data.
- Produce and interpret Venn diagrams and know and use the standard notation such as union, inter-section and complement.
- Know and use properties of circles and the related key words.
- Calculate areas, circumferences and perimeters of circles and shapes involving circles or parts of circles.
- Know units of measurement for different quantities and convert between different units of measurement.
- Be able to relate compass directions to degrees of turn and bearings.
- Use bearings to describe positions of objects on a map.
- Understand, recognise and be able to carry out transformations (reflections, rotations, translations and enlargements).
- Understand rotational symmetry.
- Understand the terms congruent and similarity as applied to shapes.
- Solve perimeter and area-based problems knowing the formula for the area of standard shapes.
- Use given formula by substituting in given values.
- Know and use the formulae for compound measures of Speed/distance/time and Density/mass/volume.
- Produce and interpret speed/distance/time graphs and conversion graphs.
- Solve combined shape, angles and ratio-based problems.
- Know square numbers, cube numbers, reciprocals and roots.
- Understand and use $y = mx + c$ and solve associated problems involving gradients and intercepts and parallel lines.
- Know and produce standard constructions and use these to solve loci problems.
- Solve simple problems involving trigonometry (SOHCAHTOA).
- Be able to draw the 2-D representations of a 3-D shape, in side/front elevation and plan view.
- Be able to sketch a 3-D shape from 2-D representations (front/side/plan views).

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Essential equipment

Black pens, pencils, rubber, ruler, protractor, pair of compasses and a scientific calculator for Paper 2.

Mathematical skills

Students will be required to complete calculations without a calculator (paper 1) and with a calculator (paper 2). Students will be required to recall what they have learnt and apply this to unfamiliar situations.

Students will have to use some of the formulae that they are expected to have learnt. For some of the questions formula may be given and in these cases, students are required to be able to use the formula. (Students will be given in advance of the mock, a copy of the formula sheet that will be provided for the examinations)

Working out and quality of written communication

Students are required to present their full working out for all questions and to answer questions in a clear manner that is easy to follow.

Revision materials

CGP Books GCSE Maths AQA Revision Guides and Workbooks for the Mathematics Grade 9-1 Course. (check with your teacher on your tier of entry for the mock exams – either foundation or higher)

TCS SharePoint – Students (Student Portal) – Subjects – Maths will provide subject links to GCSE revision resources for the Higher and Foundation Tiers. Downloadable content and other revision media is available here. Within these areas you will find some useful resources, that you may want to use now and in 2025 prior to the summer examinations.

Suggested revision activities and websites

Make mind maps, revision mats or flash/revision cards for each topic. Answer practice exam questions and go back through your year 10 mock papers and assessments. There are practice questions and answers in the revision workbooks from CGP Books. Re-do Mymaths tasks from Year 10 and Year 11 so far. The following websites may also prove useful:-

[Maths Genie • Learn GCSE Maths for Free](#)

[Videos and Worksheets – Corbettmaths](#)

<https://www.aqa.org.uk/find-past-papers-and-mark-schemes>

<https://www.cgpbooks.co.uk>

GCSE in Mathematics

These examinations represent part of the AQA GCSE Specification that was designed to be more 'rigorous' than the existing GCSE specification taught prior to 2015 in line with Government requirements. Students should expect to be required to apply their knowledge to more problem solving based questions and to apply knowledge in new unfamiliar contexts.