



Year 10 End of Year Mathematics 'Mock' Assessment (C) Revision List

Non-Calculator Paper – Paper 1 (2025) 1h 30minutes

- Substitute positive and negative numbers into algebraic expressions and formula to work out their value following the rules of BIDMAS.
- Carry out calculations involving multiplication, subtraction, addition and division with decimals and whole numbers solving problems presented in words.
- Be able to order fractions.
- Expand single brackets in algebra E.g. $x(x+8)$, $2x(3x-2)$
- Understand numbers written in standard form and as powers of ten and be able to convert them to ordinary numbers and ordinary numbers to standard form. E.g. The number in standard form 6.15×10^3 is equal to 6150. 175.03×10^6 is not in standard but it is equal to 175030000
- Be able to convert between fractions, decimals and percentages in order to compare proportions.
- Be able to write one number as a fraction of another, including decimals and decimals less than one and convert them to ordinary whole number fractions.
- Calculate simple probability problems (using sample space diagrams as necessary) giving answers as fractions, decimals or percentages and be able to comment on which outcomes are more likely based on the results.
- Know whether a calculation will give a positive or negative result by knowing that a
 $- \times - = +$, $+ \times - = -$, $- \times + = -$ and $- \div - = +$, $+ \div - = -$, $- \div + = -$
- Solve proportion and ratio problems in context. E.g. a solution is made from 3 parts water and 2 parts paint, how much paint can be made if I have an endless supply of water but only 40 litres of paint?
- Understand and plot cumulative frequency graphs and box plots including how to find the median, interquartile range. Know what percentages of the population are above and below the upper and lower quartiles and represented by the interquartile range.
- Complete Venn diagrams given information in words.
- Solve problems involving expanding double brackets. E.g. $(5x + 4)(x - 6)$.
- Factorise quadratics such as x^2+3x+2 and $2x^2-x-6$
- Factorise other algebraic expressions E.g. $36ab^3 - 18a^2b^4 = 18ab^3(2-ab)$
- Convert any recurring decimal to an exact fraction.
- Know circle theorems and solve circle theorem problems.
- Solve linear equations involving the unknown on both side, where brackets are included and where one side is a fraction. E.g. $3x + 4 = 22$, $5x + 20 = 6x - 5$, $\frac{6x + 12}{4} = 2(x - 2)$
- Simplify algebraic expressions involving indices using the rules of indices where powers need to be added or subtracted.
- Know that when you have a power to a power E.g. $(P^2)^3$ indices are multiplied to give P^6
- Solve geometric problems involving special quadrilaterals knowing their properties.
- Find and use the nth term rule for linear sequences and patterns.
- Complete scatter graphs and use line of best fit to estimate values knowing how to describe the correlation shown.

Turn over



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Calculator Paper – Paper 2 (2025) 1h 30minutes

- Identify and name parts of a circle.
- Solve problems involving the area of circles and compound shapes including circles, including shaded areas.
- Give answers to circle area based problems in terms of π .
- Work out a stratified sample for a given set of data appreciating that a stratified sample is a sample where the number selected from each group within the population is in proportion to the size of the group.
- Solve quadratic equations using factorising E.g. solve $x^2 - 3x - 4 = 0$
- Rearrange (change the subject of a formula) including where the subject appears twice.
- Recognise and describe fully transformations including rotations, reflection, enlargements and translations.
- Be able to transform shapes using rotations, reflection, enlargements and translations including enlargements where the scale factor is negative or a fraction less than 1.
- Recognise congruent shapes and be able to draw plans and elevations of a 3D shape
- Solve problems involving percentage increase and decrease knowing that to increase a value by 26% we multiply it by 1.26 and to decrease it by 26% multiply it by 0.74
- Be able to find original values after percentage increases and decreases (reverse percentages)
- Carry out calculations involving compound interest.
- Solve problems involving areas of 2D shapes and surface areas and volumes of 3D shapes such as prisms including cylinders. Where the area and volume are given, be able to calculate properties such as length, height and radius of the shapes.
- Solve linear simultaneous equations including being able to form the equations from a situation described in words.
- Interpret and use pie charts.
- Carry out calculations with the compound measures of density mass and volume.
- Carry out calculations finding the best value for money when purchasing items.
- Use the formula for the volume and surface area of cones, pyramids and spheres.
- Solve worded speed, distance, time problems knowing that $D = S \times T$, $T = D \div S$ and $S = D \div T$ and understand average speed for a whole journey.
- Solve problems related to interior and exterior angles in polygons knowing that the sum of all of the exterior angles is 360° , interior + exterior angles add to 180° and that the sum of the interior angles of any polygon is $180 \times (n-2)$ where n is the number of sides of the polygon.
- Calculate the mean from a grouped frequency table.
- Be able to work out gradients of straight lines and identify equations of linear graphs on an x-y axis.
- Understand $y = mx + c$ and how straight line graphs can be plotted from these equations.

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

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

In addition to any revision PowerPoints and Revision booklets that will be made available the following websites may be useful for revision including CGP Books GCSE Maths AQA Revision Guides and Workbooks for the Mathematics Grade 9-1 Course. [Maths Genie](#) • [Learn GCSE Maths for Free](#), [Videos and Worksheets – Corbettmaths](#) <https://www.cgpbooks.co.uk>