Testbourne Community School

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

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

- Substitute positive and some 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.
- Solve problems using knowledge of equivalent fractions and decimals.
- Add and subtract negative numbers (whole numbers and decimals)
- Solve problems involving angles in parallel lines knowing which angles are corresponding, alternate and allied.
- Solve problems with angles in special quadrilaterals knowing their angle properties.
- Be able to draw nets for some 3D shapes.
- Understand prime numbers, multiples and factors and be able to write a number as a product of its prime facts using factors tree.
- Solve problems and simplify algebraic expressions using the rules for indices (when x we add the indices, when ÷ we subtract the indices.
- Expand single brackets in algebra E.g. $x(x+8) = x^2+8x$, $2x(3x-2) = 6x^2-4x$
- Factorise expressions E.g. $5x+15 = 5(x+3)$, $x^2+4x = x(x+4)$
- Solve problems involving expanding double brackets. E.g. (x + 4)(x -6) using a 2 x 2 grid as necessary.
- Solve linear equations involving the unknown on both side, where brackets are included. E.g. 3x + 4 = 22, 5x + 20 = 6x -5, 4(x – 4) = 30
- Find and use the nth term rule for linear sequences and patterns.
- Recognise special sequences such as the Fibonacci sequence, square number and cubes number sequences
- Recognise and describe what is happening in a given sequence.
- Be able to convert between fractions, decimals and percentages in order to compare proportions.
- Solve ratio problems and know how to write a ratio as a fraction.
- Convert simple recurring decimals to exact fractions
- Identify congruent, similar shapes and shapes with line and rotational symmetry.
- Know what is meant by the difference of two squares in algebra E.g. $x^2- 4 = (x-2)(x+2)$
- 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 and circumference of circles and compound shapes including circles.
- Rearrange (change the subject) of a formula including those where powers and roots are included.
- Recognise & 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 a simple fraction.
- Solve problems involving input and output function machines.
- Solve problems involving finding percentages of amounts and
- Solve problems involving percentage increases and decreases 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 %)
- Carry out calculations involving compound interest.
- Solve problems involving areas of 2D shapes and surface areas and volumes of prisms including cylinders.
- Construct and interpret pie charts
- Solve problems knowing that probabilities add to one.
- Record outcomes of events in a sample space diagram and use it to find probabilities.
- Understand that estimates of probabilities are more accurate if more trials have taken place.
- Complete and calculate probabilities from Venn diagrams.
- Solve problems related to right angle triangles using Pythagoras theorem in different situations.
- Carry out calculations finding the best value for money when purchasing items.
- 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 x (n-2) where n is the number of sides of the polygon.
- Construct a grouped frequency table for a set of data and find the mean.
- Be able to work out gradients of straight lines. Know that parallel lines have the same gradient.
- Understand y = mx + c and how straight line graphs can be plotted from these equations by completing tables and plotting the x and y coordinates.

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