

Higher Maths – Grades A* - D

Higher maths GCSE now goes to a D, but if you don't get a D, it will be a U, so make sure you revise! Just make sure that you know the topics below and see your maths teacher if there's any topics you don't understand. Revision classes run every night except Weds.

Number topics are in purple, algebra in red, shape and space in blue and handling data in green.

Grade A/A*

Recurring decimals

Fractional and negative indices

Surds

Rationalising the denominator

Direct and inverse proportion

Upper and lower bound

Solve quadratics using the formula

Solve quadratics by completing the square

Algebraic fractions

Rearranging difficult formulae

Simultaneous equations involving a quadratic

Gradients of parallel and perpendicular lines

Transformations of functions

Graphs of trigonometric functions

Transformation of trigonometric functions

Graphs of exponential functions

Enlargement by negative scale factors

Equations of circles and loci

Sine and cosine rules

Pythagoras in 3D

Trigonometry in 3D

Areas of triangles using $\frac{1}{2}ab\sin C$

Cones and spheres

Segments and frustums

Congruent triangles

Vectors

Histograms

Probability 'And' & 'Or' questions

Stratified sampling

Grade B

Standard form calculations

Percentage change

Compound interest/depreciation
Reverse percentage
Four rules of fractions

Solving quadratic equations by factorising
Difference of two squares (DOTS)
Simultaneous linear equations
Understanding $y = mx + c$
Regions
Graphs of cubic and reciprocal functions
Recognise the shapes of functions

Trigonometry
Bearings by trigonometry
Similar shapes
Circle theorems

Cumulative frequency
Boxplots
Moving averages
Tree diagrams

Grade C

Overview of percentages
Increase/decrease by a percentage
Ratio
Product of prime factors
HCF and LCM
Standard form
Recurring decimals into fractions
Four rules of negatives
Division by 2-digit decimals
Estimating answers

Algebraic simplification
Expanding and simplifying brackets
Factorisation
Solving equations
Forming equations
Changing the subject of a formula
Inequalities
Solving inequalities
Trial and improvement
Index notation for multiplication and division
Finding the n th term
Drawing straight line graphs
Finding the equation of a straight line
Solving simultaneous equations graphically
Drawing quadratic graphs

Real-life graphs

Pythagoras' Theorem
Pythagoras – Line on a graph
3D coordinates
Surface area of cuboids
Volume of a prism
Similar shapes
Dimensions
Upper and lower bounds
Compound measures
Bisecting a line
Drawing a perpendicular to a line
Bisecting an angle
Loci
Bearings

Experimental probabilities
Averages from a table
Questionnaires

Grade D

Factors, multiples and primes
Evaluate powers
Understanding squares, cubes and roots
Equivalent fractions
Simplification of fractions
Ordering fractions
Value for money
Percentage of amount with and without a calculator
Changing to a percentage with and without a calculator
Find a fraction of an amount
Addition and subtraction of fractions
Multiplication and division of fractions
Changing fractions to decimals
BODMAS
Multiplication of decimals
Ratio
Proportion
Using a calculator
Real-life money questions

Generate a sequence from the n th term
Substitution

Alternate angles
Angle sum of a triangle
Properties of special triangles
Angles of regular polygons

Area and circumference of circles

Area of composite shapes

Transformations

- Reflections
- Rotations
- Translations
- Enlargements

Find the mid-point of a line

Measuring and drawing angles

Drawing triangles

Plans and elevations

Nets

Symmetries

Questionnaires and data collection

Two-way tables

Pie charts

Scatter graphs

Frequency diagrams

Stem and leaf diagrams

List of outcomes

Mutually exclusive events