



THIRD SPACE
LEARNING

GCSE Maths Advance Information 2022

OCR

The resource in a nutshell

This resource summarises the GCSE maths advance information provided by **OCR** into two single A4 printable pages - one for foundation and one for higher.

Topics in **bold** appear on both tiers - some of these may include the overlap questions that appear on both papers.

All three main exam boards have followed a similar pattern for their advance information in line with this year's pandemic-led adaptations.

- It is available for all papers, and for both Foundation and Higher tiers;
- The information is provided for each paper individually, and collated as a whole for the paper series;
- The topic descriptions are broad (e.g. Number; Fractions; Fractions of an amount);
- The topic descriptions are not in question order;
- There is a general sense from the guidance that the advance information will not apply to low-tariff questions, or to synoptic questions;
- Advance information will not directly provide answers to other low-tariff questions.

Additional 2022 GCSE maths revision support from Third Space Learning

Free topic-based [GCSE maths revision lessons](#) including worked examples, common misconceptions and practice GCSE questions:

[Algebra](#)

[Statistics](#)

[Number](#)

Ratio and proportion (coming soon)

[Geometry](#)

Probability (coming soon)

Free downloadable topic-based [GCSE maths worksheets](#) containing functional and applied reasoning questions, practice GCSE questions and word problems. All worksheets include answers and mark schemes.

Personalised [online one to one GCSE maths tuition](#) delivered by specialist tutors and designed to guide students through GCSE-style questions on the topics they struggle most with. Available with a 70% subsidy through the [National Tutoring Programme](#).

	Number	Ratio	Algebra	Geometry	Probability	Statistics
Paper 1	<ul style="list-style-type: none"> Four rules with integers Money calculations Priority of operations Inverse operations Understand number definitions and terms Prime numbers Fraction, decimals and percentages Fraction of a quantity Percentages of quantities Percentage change Reverse percentages Listing FDP in order Use of calculator Standard form notation Rounding Upper and lower bounds 	<ul style="list-style-type: none"> Share into a ratio Use a ratio 	<ul style="list-style-type: none"> Simplifying algebraic expressions Factorising expressions Linear equations Solving inequalities Function machines Quadratic graphs 	<ul style="list-style-type: none"> Polygons (notation and terms) Properties of parallel lines Properties of solids Column vectors Time Compound units: rates Area of a rectangle Area of a circle Area of composite shapes Volume including cylinder, pyramid and sphere 	N/A	<ul style="list-style-type: none"> Averages and range Scatter diagram and correlation Graphical misrepresentation Frequency tree
Paper 2	<ul style="list-style-type: none"> Arithmetic with positive and negative numbers Division of a quantity Prime factors Fraction, decimals and percentages Fractions of a quantity Fraction arithmetic Calculations with decimals Percentage conversions Percentage of a quantity Standard form calculations 	<ul style="list-style-type: none"> Simplify ratio Interpreting ratio Inverse proportion 	<ul style="list-style-type: none"> Multiplying out brackets Formulate algebraic expressions Equations and identities Solve linear equations Solve quadratic equations Rearrange equations Equation of a straight line 	<ul style="list-style-type: none"> Construct and interpret angle bisector, line bisector and distance from a point. Transformations Money Bearings Area of a triangle Trigonometry Exact trigonometric ratios 	<ul style="list-style-type: none"> Relative frequency Probability of equally likely events 	<ul style="list-style-type: none"> Bar chart and Pie chart
Paper 3	<ul style="list-style-type: none"> Calculations with integers Calculations with decimals Prime numbers Factors, multiples and LCM Sequence rule to find a term Understand number definitions and terms Fractions, decimals and percentages Fraction of a quantity Fraction arithmetic Percentage of a quantity Percentage change Powers of integers Use of calculator 	<ul style="list-style-type: none"> Write in a ratio Simplify a ratio Calculate with proportions Share in a ratio Direct proportion Simple interest Growth and decay problems and graphs 	<ul style="list-style-type: none"> Simplify algebraic products and quotients Multiply out brackets and simplify Factorise quadratic expressions Substitute into an expression Solve linear equation Solve simultaneous equations Continue sequence Quadratic graphs Graphs of real-world contexts 	<ul style="list-style-type: none"> Symmetry Circle terms Properties of quadrilaterals Mass, Volume, Density Perimeters of triangles and quadrilaterals Volume and surface area: cuboid and prism 	<ul style="list-style-type: none"> Understand the probability scale Probability calculation Listing outcomes and related probabilities Tree diagram Calculation with the laws of probability 	<ul style="list-style-type: none"> Averages

	Number	Ratio	Algebra	Geometry	Probability	Statistics
Paper 4	<ul style="list-style-type: none"> • Calculator use: quotients • Priority of operations • Percentage calculations • Percentage change • Reverse percentages • Upper and lower bounds • Standard form representation • Decimal, fractions and percentages equivalence 	<ul style="list-style-type: none"> • Direct proportion • Solve ratio and proportion problems • Growth and decay problems 	<ul style="list-style-type: none"> • Factorise quadratic expressions • Multiplying out brackets • Algebraic fractions • Substitute values into expressions • Formulate algebraic expressions • Use of brackets • Solving inequalities • Drawing and interpreting graphs • Quadratic graphs • Equations of circles • Algebraic proofs 	<ul style="list-style-type: none"> • Properties of a triangle • Circle terms • Angles in polygons • Properties of parallel lines • Units of length and time • Compound units: rates • Volume of pyramid and sphere • Standard circle theorems • Circumference of a circle • Pythagoras' theorem 	<ul style="list-style-type: none"> • Enumeration • Calculation with the laws of probability • Conditional probability 	<ul style="list-style-type: none"> • Collecting data • Scatter diagrams and outliers
Paper 5	<ul style="list-style-type: none"> • Fraction arithmetic • Decimal arithmetic • Types of numbers • Factors and multiples • Decimals and fractions • Recurring decimals • Percentage calculations • Percentage change • Index notation • Powers of integers • Laws of indices • Surds and exact calculations • Rounding • Estimation • Standard form representation • Standard form calculation 	<ul style="list-style-type: none"> • Simplify ratios • Use ratio • Inverse proportion 	<ul style="list-style-type: none"> • Simplifying algebraic expressions • Formulate algebraic expressions • Multiplying out brackets • Rearranging formulae • Substitute values into expressions • Use of brackets • Use kinematics formulae • Quadratic equations • Approximate solutions by iteration • Equations of circles • Drawing and interpreting graphs • Distance/speed – time graphs • Parallel and perpendicular lines • Equation of a line 	<ul style="list-style-type: none"> • Units of speed, distance and time • Transformations • Construct loci • Maps, bearings and scale drawings • Circumference of a circle and length of an arc • Area of a rectangle • Trigonometry • Exact trigonometric ratios 	<ul style="list-style-type: none"> • Relative frequency • Equally likely outcomes and probability • Venn diagrams and sets • Conditional probability 	<ul style="list-style-type: none"> • Graphical misrepresentation • Pie chart • Line graph and time series
Paper 6	<ul style="list-style-type: none"> • Types of numbers • Factors and multiples • Percentage change • Reverse percentages • Index notation • Laws of indices • Rounding • Standard form calculation 	<ul style="list-style-type: none"> • Use ratio • Calculate with proportions • Direct proportion • Growth and decay problems 	<ul style="list-style-type: none"> • Simplifying algebraic expressions • Completing the square • Multiplying out brackets • Formulate algebraic expressions • Rearranging formulae • Factorise expressions • Use of brackets • Linear equations • Quadratic equations • Graphical inequalities • Features and types of graphs • Trigonometric graphs • Transformations of graphs • Drawing and interpreting graphs • Solution set for inequalities 	<ul style="list-style-type: none"> • Reasons for congruency • Length, area and volume scale factors of similar figures • Units of money, distance, time, density, mass, volume and area • Area of a triangle • Volume and surface area: cuboid and prism • Area and circumference of a circle • Trigonometry • Solving non-right-angled triangles 	<ul style="list-style-type: none"> • Equally likely outcomes and probability • Sample spaces • Enumeration • Calculation with the laws of probability • Conditional probability 	<ul style="list-style-type: none"> • Cumulative frequency

Help ease the pressure with a personalised revision programme for each of your target KS4 students

Our one to one GCSE revision programme is designed to help your target students reach their potential in their GCSE maths exams.

Our specialist maths tutors work one to one with each student, focusing on securing core KS4 content and building familiarity with the kinds of questions they'll be tackling in their GCSE exams.

Get in touch today:

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