



THIRD SPACE
LEARNING

GCSE Maths Advance Information 2022

AQA

The resource in a nutshell

This resource summarises the GCSE maths advance information provided by **AQA** 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](#).

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

	Number	Ratio	Algebra	Geometry	Probability	Statistics
Paper 1	<ul style="list-style-type: none"> • Four operations • Negative number • Order of operations • Estimation • Fraction arithmetic • Fraction of a number • Laws of indices • Standard form conversion and calculation • Inequality notation • Systematic listing 	<ul style="list-style-type: none"> • Conversions: lengths • Percentage of an amount • Amount as a percentage • Fraction less than 1 • Ratio in simplest form • Ratio to fraction • Cost problem • Density 	<ul style="list-style-type: none"> • Linear equations • Recognise graphs • Plot graphs • Linear graph • Intersection of lines • Interpret graphs • Formula (reasoning) • Sequence rule to find a term 	<ul style="list-style-type: none"> • Naming circle part • Types of triangle • Translation • Perimeter • Sector of a circle • Angles in triangles • Constructions: region 	<ul style="list-style-type: none"> • Probability: problem • Venn diagram 	<ul style="list-style-type: none"> • Two-way table • Averages problem • Outlier
Paper 2	<ul style="list-style-type: none"> • Order of operations • Fraction of a number • Improper fraction • Fraction to decimal • Number line decimal • Number problem • Prime number • Cube number • Decimal place • Inequality notation 	<ul style="list-style-type: none"> • Time conversion • Ratio and percentage • Percentage increase • Percentage decrease • Ratio n : 1 form • Proportion problem • Scale diagram • Better value • Ratio to percentage • Equation to percentage • Rate of output 	<ul style="list-style-type: none"> • Linear equations • Equivalent expressions • Terms • Multiply out • Factorisation • Coordinates • Midpoint • Point on line • Intercept of a line • Gradient of a line • Equation of a line 	<ul style="list-style-type: none"> • Draw shape • Quadrilateral • Parallelogram • Part of circle • Pythagoras • Time problem • Area/volume: compound shape 	<ul style="list-style-type: none"> • Relative frequency • Expected value • Tree diagram 	<ul style="list-style-type: none"> • Pie chart • Range • Mean
Paper 3	<ul style="list-style-type: none"> • Place value • Factor • Multiple • Highest common factor • Error interval • Indices calculation • Money problem • Units of measure 	<ul style="list-style-type: none"> • Conversions: lengths, time • Share into a ratio • Ratio problem • Interpretation • Ratio to graph • Average speed • Percentage increase • Fraction to percentage 	<ul style="list-style-type: none"> • Number machine • Simplification • Substitution • Formula • Graphs: roots, turning point • Arithmetic sequence • Geometric sequence • nth term 	<ul style="list-style-type: none"> • Name shape • Regular shape • Line symmetry • Rotational symmetry • Circle • Cylinder • Sphere • Trigonometry • Area/volume: compound shape • Perimeter • Alternate angles • Vector arithmetic 	<ul style="list-style-type: none"> • Frequency tree • Estimate of probability 	<ul style="list-style-type: none"> • Two-way table • Vertical line diagram • Mean from diagram • Bar chart

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	Number	Ratio	Algebra	Geometry	Probability	Statistics
Paper 1	<ul style="list-style-type: none"> Decimal arithmetic Fraction arithmetic Fraction of a number Value as fraction of another Recurring decimals as fractions Percentage as operator Laws of indices Standard form conversion and calculation Surds simplification 	<ul style="list-style-type: none"> Ratio in simplest form Proportion problem 	<ul style="list-style-type: none"> Equation of a straight line Linear equations Identity Simplification of algebraic fraction Simplification Factorisation of quadratic Change subject Recognise graphs Sketch function Speed time Inequality region Interpret graphs Algebraic sequences 	<ul style="list-style-type: none"> Congruence Prism Faces Exact trigonometric values Sector of a circle Vector geometry Constructions: region 	<ul style="list-style-type: none"> Venn diagram Tree diagram Expected value Independent events 	<ul style="list-style-type: none"> Cumulative frequency
Paper 2	<ul style="list-style-type: none"> Prime number Cube number Reciprocal Decimal places Bounds Fractions: products Negative indices 	<ul style="list-style-type: none"> Share into a ratio Ratio on a line Fraction to percentage Time conversion Equation to percentage Rate of output Pressure Percentage increase Percentage decrease 	<ul style="list-style-type: none"> Equation of a circle Linear equations Quadratic equations Number line inequality Factorisation of quadratic Multiply out Completing the square Coordinate problem Perpendicular lines Turning point Inverse functions Triangular numbers 	<ul style="list-style-type: none"> Area/volume: compound shape, cone, hemisphere Volume scale factor Plan Pythagoras Time Geometric proof 	<ul style="list-style-type: none"> Relative frequency Expected value Notation 	<ul style="list-style-type: none"> Estimation from sample Pie chart Mean
Paper 3	<ul style="list-style-type: none"> Highest common factor Lowest common multiple Error interval Ordering decimals Recurring decimals Product rule for counting 	<ul style="list-style-type: none"> Share into a ratio Average speed Population density Percentage increase Compound interest 	<ul style="list-style-type: none"> Quadratic equations Simultaneous linear/quadratic Simplification Triple bracket Factorisation Quadratic (manipulation) Graphs: roots, turning point Quadratic graph Exponential graph Composite functions Arithmetic sequence Geometric sequence nth term 	<ul style="list-style-type: none"> Area/volume: compound shape, cylinder Quadrilateral Circle theorems Trigonometry Sine/cosine rule Vector arithmetic Bearings 	<ul style="list-style-type: none"> Independent events 	<ul style="list-style-type: none"> Two-way table Histogram Box plot Median, quartiles Interquartile range Line of best fit Outlier

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.

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