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Mathematics Paper Index Higher Tier

OCR

SET 1A

The resource in a nutshell

This resource summarises the GCSE maths advance information provided by **OCR** for the 3 higher papers.

Numbers in **bold** show how the question numbers in the example papers relate to the specific topics detailed in the advance information for the Summer 2022 exam series.

The 3 practice papers in this pack are based on the topics from the advanced information for the Summer 2022 exam series.

Please note, the papers are an example to help revision, these topics can be tested in other ways and other topics may be included in the actual papers.

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](#)[Geometry](#)[Probability](#)

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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 4	<ul style="list-style-type: none"> Calculator use 2 Priority of operations 10 Percentage calculations 5, 8 Percentage change 8 Reverse percentages 8 Upper and lower bound 16 Standard form 1 FDP equivalence 	<ul style="list-style-type: none"> Direct proportion 22 Solve ratio and proportion problems 14 Growth and decay problems 18 	<ul style="list-style-type: none"> Factorise quadratic 9 Multiply out brackets 3 Algebraic fractions 19 Substitute values into expressions 7, 18 Formulate algebraic expression 20 Use of brackets 19 Solving inequalities 3 Drawing and interpreting graphs 5 Quadratic graphs 7 Equations of circles 21 Algebraic proof 20 	<ul style="list-style-type: none"> Properties of triangles 13 Circle terms 9 Angles in polygons 13 Properties of parallel lines 6 Units of length and time 5 Compound units: rates Volume of pyramid and sphere 15 Standard circle theorems 9 Circumference of circle 21 Pythagoras' theorem 21 	<ul style="list-style-type: none"> Enumeration 11 Calculation with laws of probability 17 Conditional probability 17 	<ul style="list-style-type: none"> Collecting data 12 Scatter diagrams and outliers 4
Paper 5	<ul style="list-style-type: none"> Fraction arithmetic 2 Decimal arithmetic 3 Types of number 10 Factors and multiples 10 Decimals and fractions Recurring decimals 13 Percentage calculations Percentage change Index notation 16 Powers of integers 16 Laws of indices 16 Surds and exact calculations 17 Rounding Estimation Standard form 8 	<ul style="list-style-type: none"> Simplify ratios 7 Use ratio 12 Inverse proportion 9 	<ul style="list-style-type: none"> Simplifying algebraic expressions 14 Formulate algebraic expressions 14 Multiplying out brackets 14 Rearranging formulae 18 Substitute values into expressions 18 Use of brackets 14 Use kinematics formulae 11 Quadratic equations 14 Approximate solutions by iteration 18 Equations of circles 19 Drawing and interpreting graphs 11 Distance/speed-time graphs 11 Parallel and perpendicular lines 19 Equation of line 19 	<ul style="list-style-type: none"> Units of speed, distance, time 11 Transformations 4 Construct loci 7 Maps, bearings, scale drawings 7 Circumference of circle and length of arc 20 Area of rectangle 14 Trigonometry 20 Exact trig values 20 	<ul style="list-style-type: none"> Relative frequency 6 Equally likely outcomes and probability 3 Venn diagrams and set theory 15 Conditional probability 15 	<ul style="list-style-type: none"> Graphical misrepresentation 5 Pie chart 5 Line graph and time series 1
Paper 6	<ul style="list-style-type: none"> Types of number 5 Factors and multiples 5 Percentage change 13 Reverse percentages 13 Index notation 15 Laws of indices 15 Rounding 18 Standard form calculations 12 	<ul style="list-style-type: none"> Use ratio 1 Calculate with proportions 2 Direct proportion 8 Growth and decay problems 14 	<ul style="list-style-type: none"> Simplifying algebraic expressions 15 Completing the square 19 Multiplying out brackets 17 Formulate algebraic expressions 3, 22 Rearranging formulae 17 Factorise expression 17 Use of brackets 22 Linear equation 3 Quadratic equation 22 Graphical inequalities 11 Features and types of graphs 10, 19 Trigonometric graphs 20 Transformations of graphs 20 Drawing and interpreting graphs 11 Solution set for inequalities 11 	<ul style="list-style-type: none"> Reasons for congruency 9 Length, area and volume scale factors of similar figures 21 Units of money, distance, time, density, mass, volume and area 6, 7 Area of a triangle 4 Volume and surface area of cuboid and prism 7, 12 Area and circumference of a circle 4 Trigonometry 18 Solving non right-angle triangles 18 	<ul style="list-style-type: none"> Equally likely outcomes and probability 6 Sample spaces 6 Enumeration 6 Calculation with the laws of probability 22 Conditional probability 22 	<ul style="list-style-type: none"> Cumulative frequency 16

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