

**Higher Tier: Collated content for Paper 1H, 2H and 3H**

<b>Number (*see Ratio – some overlap of topic areas)</b>	
Arithmetic	Negative number
Fractions	Fraction of an amount
	Fraction arithmetic
	Recurring decimal to fraction
Properties	Product of prime factors
	Laws of indices
	Negative and fractional indices
Powers and roots	Simplification of surds
Standard Form	Conversion
	Calculation
Approximation and estimation	Error Interval
	Bounds
Other	Use of a calculator
	Product rule for counting
<b>Algebra</b>	
Manipulation	Simplification
	Expansion of bracket
	Factorisation
	Laws of indices
	Substitute values
	Change subject of a formula
	Forming an expression
	Expansion of brackets
	Difference of two squares
	Algebraic fractions

Equations and inequalities	Linear equation
	Form an equation
	Set up and solve equation
	Linear inequality
	Quadratic equation
	Quadratic inequality
	Equations of parallel lines
	Equation of a tangent to a circle
	Simultaneous equations linear/quadratic
Graphs	Coordinates
	Quadratic graph
	Gradient of a straight line graph
	Gradients of parallel and perpendicular lines
	Speed-time graph
	Gradient of a curve
	Transformations of functions
	Graphs of trigonometric functions
Functions	Inverse and composite functions
<b>Ratio, proportion and rates of change (*see Number – some overlap of topic areas)</b>	
Conversions	Time
	Area
Percentages	Percentage of an amount
	Percentage decrease
	Depreciation
	Reverse percentage

Ratio	Write as a ratio
	Use of ratio
	1 : $n$ form
	Share in a ratio
	Ratio to fraction
Proportion	Direct proportion
	Currency conversion
	Inverse proportion
	Equations of proportion
Compound Measures	Average speed
	Density
	Pressure
Growth and decay	General iterative processes
<b>Geometry and measures</b>	
Shape	Transformations
Angles	Angles in a polygon
	Circle theorems
Length, area and volume	Area of a rectangle
	Area of a triangle
	Area of a trapezium
	Area of a sector
	Surface area of a cuboid
	Volume of a cube
	Volume of composite solid
	Similar triangles

Pythagoras's Theorem and Trigonometry	Pythagoras's Theorem
	Trigonometry
	Sine and Cosine Rules
	Trigonometry in 3-D
	Exact trigonometric values
Vectors	Column vectors
	Vector geometry
<b>Probability</b>	
Probability	Probability
	Venn diagram
	Probability from a Venn diagram
	Independent combined events
	Dependent combined events
<b>Statistics</b>	
Diagrams	Frequency polygon
	Cumulative frequency graph
	Box plot
	Histogram
Measures	Mean
	Lower and upper quartiles
	Inter-quartile range
Populations	Compare distributions
	Capture-recapture method