

Pre-U Mathematics (Basic Level)

Chapter	Content
Fundamental concepts of algebra	Real numbers and their properties
	Exponents and radicals
	Factoring
	Sets and operations on sets
	Absolute value
	Ratio, proportion, and direct, inverse, joint and partial variations
Functions and their graphs	Order pairs and Cartesian products
	Various types of relations
	Definition of a function
	Operations on functions
	Quadratic and polynomial functions
	Factor and remainder theorem
	Exponential and logarithmic functions
	Composite functions and inverse functions
	Intercepts and writing the equation of a straight line
	Graphs of functions
	Rational functions
Trigonometry	Angles and their measure
	Right-triangle trigonometry
	The Pythagorean theorem
	Trigonometric functions
	Graphs of Trigonometric functions
	Using and verifying trigonometric identities
	Solving Trigonometric equations
	Laws of trigonometric functions
	Verifying trigonometric identities
	Solving trigonometric equations
	Sum and difference Formulas
Some applications	

Systems of equations and inequalities	Solution sets for linear equations
	Solving linear inequalities and illustrating the result on the number line
	Solving quadratic equations by factorization
	Identifying the axis of symmetry and writing its equation
	Finding the maximum and (or) minimum values and points from graphs
	Partial fractions
Systems of inequalities	
Ration, rates and percentages	Dividing a quantity in a given ratio
	Common rates
	Distance-time graphs
	Some applications
Geometry	Properties of lines, angles, triangles, polygons, and circles
	Perimeter
	Area
	Volume
Additional topics in trigonometry	Scalar and vector quantities
	Laws of sines and cosines
	Vectors in the plane
	Applications of vectors