

Year 3 Express Mathematics
GCE 'O' Level Subject Code: 4052

	Topics
Term 1	
	Chapter 1: More about Quadratic Equations and Quadratic Functions
1.1	Solving Quadratic Equations by Completing the Square
1.2	Solving Quadratic Equations by Using Quadratic Formula
1.3	Solving Quadratic Equations by Using Graphical Method
1.4	Solving Fractional Equations that can be Reduced to Quadratic Equations
1.5	Solving Real-world Problems Involving Quadratic Equations
1.6	Sketching the Graphs of Quadratic Functions
	Chapter 2: More About Linear Inequalities
2.1	Notations and Basic Properties of Inequalities
2.2	Simultaneous Linear Inequalities
2.3	Applications of Simultaneous Linear Inequalities
	Chapter 3: Indices
3.1	Positive Integer Indices and Laws of Indices
3.2	Zero and Negative Integer Indices
3.3	Fractional Indices
3.4	Solving Equations Involving Indices
3.5	Standard Form
3.6	Application of Indices to Compound Interest
Term 2	
	Chapter 4 Coordinate Geometry
4.1	Gradient of a Straight Line
4.2	Equation of a Straight Line
4.3	Length of a Line Segment
4.4	Geometric Problems Involving the Use of Coordinates
	Chapter 5 Functions and Graphs
5.1	Graphs of Power Functions
5.2	Graphs of Exponential Functions
5.3	Gradients of Curves
5.4	Graphs of Simple Sums of Power Functions
5.4	Graphs in Practical Situations
	Chapter 6 Conditions of Congruence and Similarity
6.1	Congruence Tests
6.2	Similarity Tests
6.3	Ratio of Areas of Similar Plane Figures
6.4	Ratio of Volumes of Similar Solids
6.5	Perpendicular Bisectors, Angle Bisectors and Scale Drawings
Term 3	
	Chapter 7 Trigonometry
7.1	Sine and Cosine Ratios of Obtuse Angles
7.2	Formula for the Area of a Triangle
7.3	The Sine Rule
7.4	The Cosine Rule
	Chapter 8 Applications of Trigonometry
8.1	Bearing Problems
8.2	Angles of Elevation and Depression
8.3	Simple Three-Dimensional Problems

	Topics
Term 3	
	Chapter 9 Arc Lengths, Sector Areas and Radian Measure
9.1	Arc Lengths
9.2	Sector Areas and Segment Areas
9.3	Radian Measure
9.4	Arc Length and Sector Area in Radian Measure
	Chapter 10 Properties of Circles
10.1	Chords of a Circle
10.2	Angles at the Circumference
10.3	Angles in the Same Segment and Opposite Segments
Term 4	
10.4	Tangents to a Circle