Scheme of work for IGCSE (0607) Extended – Standard level

YEAR 1

Week	Week comencing on	Topic	Lessons
		Types of numbers	1
		Four operations and brackets	1
		HCF&LCM	1
1		Calculation of powers and roots	1
		Ratio and proportion	1
		Absolute value	1
		Convert terminating decimals and recurring decimals into fraction	1
2		Percentage	1
		Profit and loss	1
		Simple interest	1
		Reverse percentage problems	1
3		Multipliers and chain percentage	1
		Compound growth	1
		Saving credits and loans	1
		Wages salaries income tax purchase tax	1
4		Index laws	1
		Rational exponents	1
		Standard form	1
		Calculations in standard form	1
5		Surds	1
		Properties of surds	1
		adding surds	1
		Multiplication of surds	1
6		Division by surds	1
		Rounding decimal places	1
		Rounding significant figures	1
		Calculations involving time	1
7		Speed, distance and time	1
		Travel graphs	1
		Interpreting linear inequalities	1
		Solving linear inequalities	1
8		Sign diagrams	1
		Solving quadratic inequelities	1
		Solving quadratic inequelities using GDC	1
		Linear inequalities regions	1
9		Solving linear equations	1

		Solving equations with fractions	1
		Forming equations	1
		Problem solving using linear equations	1
10		Power equations	1
		Evaluating formulae	1
		Formula rearrangement	2
		More difficult rearrangements	1
		Formula derivation	1
		Simultaneous equations: Graphical solution	1
		Simultaneous equations: solution by equating values of y	1
12		Simultaneous equations: solution by sustitution	1
		Simultaneous equations: solution by elimination	1
		Problem solving with simultaneous equations	1
		Simultaneous equations: solution using GDC	1
13		The distributive law	1
		The product (a+b)(c+d)	1
		Difference of two squares	1
		Perfect square expansion	1
14		Further expansion	1
		Factorising with common factors	1
		Difference of squares factorisation	1
		Expressions with four terms	1
15		Perfect square factorisation	1
		Factorising x2 + bx +c	1
		Splitting the middle term	1
		Miscellaneous factorisation	1
16		Simplifying algebraic fractions	1
		Adding and subtracting algebraic fractions	1
		Multiplying and dividing algebraic fractions	1
		more complicated fractions	1
17		Quadratic equations	1
		The quadratic formula	1
		Problem solving	1
		Using technology to to solve unfamiliar equations	1
18		Exponential equations	1
		Number sequences	1
		nth term of a linear sequence	1
		Geometric sequences	1
19		The difference method for quadratic and cubic sequences	1
		Direct variation	1
		Inverse variation	1
		Variation modelling	1
20		Power modelling	1

		Mapping diagrams	1
		Domain and range	1
		Function notation	1
21		Linear function	1
		Quadratic functions	1
		Graphs of quadratic functions	1
		Axes intercepts	1
22		Line of symmetry and vertex	1
		Problem solving with quadratic functions	1
		Cubic functions	1
		Reciprocal functions	1
23		Exponential functions	1
		Problem solving with exponential functions	1
		Exponential modelling	1
		The absolute value function	1
24		Trigonometric function	1
		Finding a quadratic function	1
		Sketch the graph of a function	1
		Produce a table of values	1
25		Find zeros, local maxima or minima	1
		Find the intersection of the graphs of functions	1
		Composite functions	1
		Transforming functions	1
26		Inverse functions	1
		Logarithms in base a	1
		The logarithmic function	1
		Rules for logarithms	1
27		Logarithms in base 10	1
		Exponential equations	1
		Logarithmic equations	1
		Plotting points	1
28		Distance between two points	1
		Midpoint of a line segment	1
		Gradient of a line segment	1
		Gradient of parallel and perpendicular lines	1
29		Using coordinate geometry	1
		Vertical and horizontal lines	1
		Graphing from a table of values	1
		Equations of lines (gradient-intercept form)	1
30		Equations of lines (General form)	1

		Equation of line (Point_Gradient form)	1
		Equation of line (given two points)	1
		Linear inequality regions	1
31		Integer points in regions	1
		Problem solving	1
		Lines of symmetry	1
		Line and rotational symmetry	1
32		Around a point, straight line, intersecting stright lines, vertically oposite angles,	1
		Angles on parallel lines	1
		Angle sum in a triangle	1
		Angle sum in a quadrilateral	1
33		Interior angles of a polygon	1
		Exterior angles of polygons	1
		Similar figures	1
		Area of similar objects	1
34		Volume of similar objects	1
		Problem solving wit similar triangles	1
		Pythagoras' theorem	1
		The converse of Pythagoras theorem	1
35		Problem solving 2D	1
		Problem solving 3D	1
		Distance on a grid	1
		Problems with chords	1
36		Tangent from a point	1
		Angle in a semicircle	1
		Angles at centre and angles on the same arc	1
		Cyclic quadrilaterals	1
37		Alternate segments	1

YEAR 2

		Vectors, basic concepts	1
		Vector addition and subtraction	1
		Component form of vectors	1
38		Magnitude of a vector	1
		Vectors in geometry	1
		Translations	1
		Reflections	1
39		Rotations	1
		Enlargements and reductions	1
		Stretches	1
		Transforming functions	1
40		Transforming quadratic functions	1
		Transforming reciprocal functions	1
		Combinations of transformations	1
		Units of length, area, volume, capacity and mass	1
41		Perimeter of 2D shapes rectangle, triangle and compound shapes derived from these	1
		Area of 2D shapes	1
		Circumference of a circle and length of arc	1
		Area of circles and sectors	1
42		Surface area of prism and pyramid	1
		Surface area of cylinder and cone sphere and hemisphere	1
		Volume of prisms and cylinders	1
		volume of pyramid and cone	1
43		Volume of sphere and hemisphere	1
		Compound solids	1
		Capacity	1
		The trigonometric ratios: finding sides	1
44		The trigonometric ratios: finding angles	1
		Problem solving	1
		Exact values for the trigonometric ratios of 0°, 30°, 45°,60°, 90°	1
		The first quadrant of the unit circle	1
45		The unit circle	1
		The sine rule	1
		The cosine rule	1
		Problem solving with the sine and cosine rule	1
46		Area of a triangle using sine	1
		Applications: Angles of elevation and depression	1
		True bearings	1
		3-dimensional problem solving	1
47		The angle between a line and a plane	1

		Trigonometric graphs	1
		Graphs of y = a sin(bx) and y = a cos (bx)	2
48		Set Notation	1
		Interval notation	1
		Problem solving using Venn diagrams	2
49		Shading regions in Venn diagrams	1
		Union and intersection	1
		Introduction to probability	1
		Sample space diagrams	1
50		Estimating probabilities	1
		Probabilities from two-way tables	1
		Expectation	1
		The addition rule	1
51		The multplication rule	1
		Compound events	1
		Dependent events	1
		Miscellaneous probablity questions	1
52		Using tree diagrams	1
		Sampling with and without replacement	1
		Mutually exclusive and non-mutually exclusive events	1
		Probabilities from Venn diagrams	1
53		Discrete and continuous data	1
		Variable used in statistics	1
		Organising and describing discrete data	1
		Bar chart, line graph	1
54		Pie chart,	1
		Stem and leaf diagram	1
		Scatter diagram	1
		The centre of a discrete data set	1
55		Measuring the spread of discrete data	1
		Data in frequency tables	1
		Grouped discrete data	1
		The mean of continuous data	1
56		Cumulative frequency. Median, quartiles, percentiles and inter-quartile range	1
		Statistics from technology	1
		Correlation	1
		Line of best fit by eye	1
57		Linear regression	1

This is just a suggestion to distribute the topics from the Syllabus over the two Years.

You may find useful the links to our website to find resources for most of the topics.