CITYTUITION MATHS CURRICULUM

100 units = 300 lessons

Unit						
A013 Expressions and formula	Collecting like terms	Multiplying terms	Dividing terms	Substitution 1	Substitution 2	Forming expressions	Forming formula
A025 Expanding and factorising 1	Expanding single brackets	Expanding double brackets	Factorising	Factorising quadratics 1	Difference of two squares		
A034 Linear equations	Function machines	Solving equations 1	Solving equations 2	Solving equations 3	Forming and solving equations 1	Forming and solving equations 2	Forming and solving equations 3
A045 Solving quadratics 1	Solving quadratics 1	Solving quadratics 2				
A054 Linear and quadratic graphs	Plotting linear graphs 1	Plotting linear graphs 2	Quadratic graphs 1	Quadratic graphs 2		
A065 Cubic and reciprocal graphs	Plotting cubic graphs	Plotting reciprocal graphs				
A075 Straight line graphs 1	Gradient	Equations of a straight line 1	Equations of a straight line 2	Parallel lines		
A084 Real-life graphs	Conversion graphs	Distance-time graphs				
A093 Linear sequences	Generating terms	nth term of a linear sequence	Determining if a number is on a sequence	Sequences from patterns		
A105 Non-linear sequences	Special sequences	Geometric sequences				
A115 Linear inequalities	Representing inequalities	Linear inequalities 1	Linear inequalities 2			
A125 Simultaneous equations 1	Linear simultaneous equations	Simultaneous equations graphical				
A135 Sketching quadratics and cubics	Sketching quadratics 1	Sketching simple cubic graphs				
A145 Rearranging formula 1	Rearranging formula 1	Rearranging formula 2				
A157 Rearranging formula 2	Rearranging harder formula					
A167 Expanding and factorising 2	Expanding triple brackets	Factorising quadratics 2				
A177 Solving quadratics 2	Solving quadratics 2	Quadratic formula				
A188 Completing the square	Completing the square 1	Completing the square 2	Sketching quadratics 2	Solving quadratics using graphs		
A198 Non-linear simultaneous equations 2	Non-linear simultaneous equations 1	Non-linear simultaneous equations 2				
A208 Quadratic sequences	Quadratic sequences 1	Quadratic sequences 2				
A218 Algebraic fractions	Simplifying algebraic fractions	Adding and subtracting algebraic fractions	Multiplying and dividing algebraic fractions	Algebraic fraction equations 1	Algebraic fraction equations 2	
A228 Iteration	Iteration 1	Iteration 2				
A238 Functions	Functions and composite functions	Inverse functions				
A247 Advanced graphs	Equations of a circle	Exponential functions	Trigonometric graphs			
A258 Transformation of functions	Transformation of functions 1	Transformation of functions 2				
A269 Straight line graphs 2	Perpendicular lines	Tangents to a circle				
A278 Algebraic proofs	Algebraic proofs 1	Algebraic proofs 2	Algebraic proofs 3	Algebraic proofs 4		
A286 Inequality regions	Inequality regions 1	Inequality regions 2				
A299 Quadratic inequalities	Quadratic inequalities 1	Quadratic inequalities 2				
A309 Precalculus	Estimating area under the curve	Instantaneous and average rates of change	Velocity-time graphs			
N012 Working with integers	Multiplying and dividing by powers of 10	Adding and subtracting integers	Multiplying integers	Dividing integers	Adding and subtracting negatives	Multiplying and dividing negatives
N023 Working with decimals	Ordering decimals	Adding and subtracting decimals	Multiplying decimals	Dividing decimals		
N033 Fractions 1	Fractions	Ordering fractions	Mixed numbers and improper fractions	Fraction of an amount	Reverse fractions	Fractions, decimals and percentages 1	Fractions, decimals and percentages 2
N043 Fractions 2	Adding and subtracting fractions	Multiplying fractions	Dividing fractions			
N052 Order of operations	Order of operations 1	Order of operations 2				
N063 Factors, multiples and primes	Factors, multiples and primes	HCF and LCM	Product of primes	HCF and LCM using prime factorisation		
N072 Rounding	Rounding	Rounding to decimal places	Rounding to significant figures			
N084 Approximation and estimation	Estimation	Error intervals	Using a calculator			
N092 Listing and combinations	Listing combinations					
N105 Indices 1	Powers and roots	Calculating with powers	Laws of indices	Negative indices		
N115 Standard form	Standard form	Standard form: multiplication and division	Standard form: addition and subtraction			
N122 Percentages 1	Percentages 1	Percentages 2	One quantity as a percentage of another			
N134 Percentages 2	Percentage change	Reverse percentages				
N144 Repeated percentage change 1	Compound percentage 1	Compound percentage 2				
N153 Ratio 1	Simplifying ratio	Ratio: sharing	Ratio: given one quantity	Ratio: difference between parts		
N164 Ratio 2	Ratio: combining ratios	Ratio: problems				
N175 Ratio 3	Ratios and fractions	Ratios and equations				
N183 Proportion 1	Proportion: recipe	Proportion: area				
N194 Proportion 2	Best buys	Currency exchange				
N205 Direct and inverse proportion 1	Inverse proportion	Direct and inverse proportion graphs	Interpreting equations involving proportion			
N213 Unit conversions	Metric units 1	Metric units 2	Using imperial units			
N224 Compound measures 1	Speed 1	Speed 2	Density	Pressure 1	Rates of pay	
N236 Compound measures 2	Area and volume metric units	Pressure 2				
N246 Recurring decimals to fractions	Recurring decimals	Recurring decimals to fractions 1	Recurring decimals to fractions 2			
N256 Product rule for counting	Product rule for counting 1	Product rule for counting 2				
N266 Repeated percentage change 2	Repeated percentage change					
N277 Direct and inverse proportion 2	Direct proportion algebra	Inverse proportion algebra				
N288 Indices 2	Fractional indices 1	Fractional indices 1	Indices and equations			
N298 Surds	Simplifying surds	Expanding surds	Rationalising surds	Harder surd problems		
N308 Upper and lower bounds	Upper and lower bounds 1	Upper and lower bounds 2				
G012 Coordinates and 2D shapes	Coordinates	Midpoint	Symmetry	Triangles and quadrilaterals	Measuring angles	Drawing angles
G023 3D shapes	Faces, vertices and edges	Nets	Plans and elevations			
G034 Angles 1	Basic angle facts	Angles in special triangles	Angles in special quadrilaterals	Angles in parallel lines		
G045 Angles 2	Angles in polygons 1	Angles in polygons 2	Angles in polygons 3			
G053 Area and perimeter	Perimeter	Rectangles and parallelograms	Triangles	Trapezium	Compound shapes	
G065 Circles and sectors	Circumference	Area of a circle	Arc length	Area of a sector		
G074 Volume of prisms	Volume of cuboids	Volume of prisms	Volume of cylinders			
G084 Surface area of prisms	Surface area of cuboids	Surface area of triangular prisms	Surface area of cylinders			
G095 Cones, pyramids and spheres	Spheres	Pyramids	Cones	Frustums		
G104 Construction	Constructions 1	Constructions 2	Constructions 3	Constructions 4		
G115 Loci problems	Loci problems 1	Loci problems 2				
G124 Pythagoras	Pythagoras' theorem 1	Pythagoras' theorem 2	Pythagoras' theorem 3			
G135 Trigonometry	Trigonometry 1	Trigonometry 2	Trigonometry 3	Trigonometry 4	Exact trig values	
G144 Bearings	Scale drawings	Measuring bearings	Drawing bearings			
G154 Transformations 1	Translation	Reflection	Rotation	Enlargement 1		
G165 Similarity and congruence	Introduction to similarity and congruence	Congruent triangles	Similarity problems			
G175 Vectors 1	Column vectors 1	Column vectors 2	Vector algebra			
G186 Transformation 2	Enlargement 2	Invariance				
G196 Similar shapes harder	Similarity area	Similiarity volume				
G206 Circle theorems	Circle theorems 1	Circle theorems 2	Circle theorems 3			
G218 Proofs of circle theorems	Proofs of circle theorems 1	Proofs of circle theorems 2				
G227 3D Pythagoras and trigonometry	3D pythagoras	3D trigonometry				
G238 Sine and cosine rule, area of any triangle	Sine rule	Cosine rule	Area of any triangle			
G249 Proofs with congruent triangles	Proofs with congruent triangles 1	Proofs with congruent triangles 2				
G259 Vectors 2	Vector proofs: midpoint	Vector proofs: ratio	Vector proofs: collinear			
S013 Data collection	Data collection and sampling	Tally charts and frequency tables	Stratified sampling			
S023 Frequency diagrams 1	Pictograms	Bar charts and vertical line charts	Comparative bar charts	Composite bar charts		
S033 Frequency diagrams 2	Frequency polygons	Stem-and-leaf diagrams 1	Stem-and-leaf diagrams 2			
S044 Pie charts	Pie charts 1	Pie charts 2				
S054 Averages and range	Mean	Median and mode	Comparing distributions	Reverse mean		
S064 Averages from a frequency table	Mean from a frequency table	Median and mode from a frequency table				
S074 Line graphs and scatter graphs	Line graphs	Time series	Scatter graphs			
S083 Probability	Probablity	Probabilities sum to 1	Sample-space diagrams	Relative frequency and expected number	Successive events	
S094 Two-way tables	Two-way tables 1	Two-way tables 2				
S105 Venn diagrams	Venn diagrams 1	Venn diagrams 2				
S115 Probability trees	Frequency trees	Probability trees 1	Probability trees 2			
S127 Cumulative frequency and box plots	Cumulative frequency diagrams	Box plots				
S137 Histograms	Drawing histograms	Interpreting histograms				
S147 Conditional probability	Conditional probability: two-way tables	Conditional probability: Venn diagrams	Conditional probability: probability trees			
S158 Harder probability problems	Harder probability problems	Probability trees algebra				