

## Recommended Pre-requisites and Next Steps

<b><u>NUMBER</u></b>		
<b><u>Pre-requisites</u></b>	<b><u>Titles</u></b>	<b><u>Next Steps</u></b>
N 3.1	N 1.1 Adding Integers	N 1.2 N 3.3
N 1.1 N 3.1	N 1.2 Subtracting Integers	N 1.3 N 3.3
N 1.1 N 3.1	N 1.3 Multiplying Integers	N 1.4 N 3.4
N 1.3 N 3.1 N 4.2 N 5.1	N 1.4 Dividing Integers	N 3.5 N 5.3
N 8.1	N 1.5 Order of Operations	N 11.1
N 8.1	N 1.6 Prime Numbers & Prime Factor Decomposition	N 1.7 N 1.8
N 1.6	N 1.7 Factors & Highest Common Factor (HCF)	N 1.8
N 1.6 N 1.7	N 1.8 Multiples & Lowest Common Multiple (LCM)	N 4.3 N 4.4
N 1.1 N 1.2	N 2.1 Adding & Subtracting Negative Numbers	N 2.2 N 8.2
N 1.3 N 1.4 N 2.1	N 2.2 Multiplying & Dividing Negative Numbers	N 8.2
	N 3.1 Place Value & Ordering Decimals	N 3.2 N 3.3
N 3.1	N 3.2 Multiplying & Dividing by 10, 100, 1000	N 3.4 N 3.5 N 3.6
N 1.1 N 1.2 N 3.1	N 3.3 Adding & Subtracting Decimals	N 3.4 N 3.5
N 1.3 N 3.2	N 3.4 Multiplying Decimals	N 3.5
N 1.4 N 3.2 N 4.1	N 3.5 Dividing Decimals	
N 1.3 N 1.4 N 3.2	N 3.6 Related Calculations	
N 1.7	N 4.1 Equivalent Fractions	N 4.2 N 4.3 N 4.4
N 4.1	N 4.2 Mixed Numbers & Improper Fractions	N 4.4 N 4.5 N 4.6
N 1.8 N 4.1	N 4.3 Ordering Fractions	N 5.2
N 1.8 N 4.1 N 4.2	N 4.4 Adding & Subtracting Fractions	N 4.5
N 4.1 N 4.2	N 4.5 Multiplying Fractions	N 4.6 N 4.7

N 4.1 N 4.2 N 4.5	N 4.6 Dividing Fractions	
N 4.5	N 4.7 Fractions of an Amount	N 6.2 N 6.3
N 1.4 N 3.1 N 3.2 N 4.1	N 5.1 Converting between Fractions, Decimals & Percentages	N 5.2
N 3.1 N 4.3 N 5.1	N 5.2 Ordering Fractions, Decimals & Percentages	
N 1.4 N 4.1 N 4.2 A 3.10	N 5.3 Recurring Decimals	
N 1.4 N 3.2 N 4.1 N 5.1	N 6.1 Expressing One Quantity as a Percentage of Another	N 6.2
N 3.2 N 4.7	N 6.2 Percentages of an Amount (Non - Calculator)	N 6.3
N 3.2 N 3.4 N 4.7 N 6.2	N 6.3 Percentages of an Amount (Calculator)	N 6.4
N 6.2 N 6.3	N 6.4 Percentage Increase / Decrease	N 6.5 N 6.6 N 6.7
N 6.1 N 6.4	N 6.5 Percentage Change	N 6.6
N 6.4 N 6.5	N 6.6 Reverse Percentages	N 6.7
N 6.4	N 6.7 Compound Interest	
N 3.1	N 7.1 Rounding - Nearest 10, 100, 1000	N 7.2 N 7.6
N 3.1 N 7.1	N 7.2 Rounding - Nearest Whole Number & Decimal Places	N 7.3 N 7.6
N 3.1 N 7.1 N 7.2	N 7.3 Rounding - Significant Figures	N 7.5 N 7.6
N 7.1 N 7.2 N 7.3	N 7.4 Truncating	N 7.6
N 3.4 N 3.5 N 4.1 N 7.3 N 11.1	N 7.5 Estimation	N 7.6
N 7.1 N 7.2 N 7.3	N 7.6 Error Intervals	N 7.7
N 7.6	N 7.7 Calculating with Upper & Lower Bounds	
	N 8.1 Indices - Squares, Cubes & Powers	N 8.2
N 2.1 N 2.2 N 8.1	N 8.2 Laws of Indices	N 8.3 A 3.3 A 3.4 A 3.7
N 8.1 N 8.2	N 8.3 Fractional Indices	
N 3.2 N 8.1	N 9.1 Standard Form	N 9.2
N 1.1 N 1.2 N 3.3 N 3.4 N 3.5 N 8.2 N 9.1	N 9.2 Calculating with Standard Form	
N 1.7 N 8.1 A 3.2 A 3.3 A 3.4	N 10.1 Surds	N 10.2
N 10.1 A 3.5 A 4.1 A 11.1	N 10.2 Rationalising the Denominator	

N 1.5 N 7.2 N 8.1	N 11.1 Using a Calculator	
	N 11.2 Time	R 3.1
N 3.3 N 7.2	N 11.3 Money	N 11.4
N 11.3 N 7.2	N 11.4 Exchange Rates	R 4.1

## RATIO, PROPORTION & RATES OF CHANGE

<u>Pre-requisites</u>	<u>Titles</u>	<u>Next Steps</u>
N 4.1 N 5.1 N 6.1	R 1.1 Introduction to Ratio	R 1.2
N 1.7 R 1.1	R 1.2 Simplifying Ratio	R 1.3
R 1.1 R 1.2	R 1.3 Sharing in a Ratio	R 1.4
R 1.1 R 1.2 R 1.3 N 1.8	R 1.4 Ratio Problems	R 2.1
R 1.1 R 1.2	R 2.1 Introduction to Proportion	R 2.2
R 2.1	R 2.2 Direct & Inverse Proportion	R 2.3
R 2.2 A 3.9 A 3.10	R 2.3 Direct Proportion (Algebra)	R 2.4
R 2.2 R 2.3 A 3.9 A 3.10	R 2.4 Inverse Proportion (Algebra)	
N 11.2	R 3.1 Speed	R 4.3 R 4.4 R 4.5
R 3.1 G 5.2 G 5.3	R 3.2 Density	R 3.3
R 3.2 G 5.2 G 5.3	R 3.3 Pressure	
A 2.2 N 11.4	R 4.1 Conversion Graphs	R 4.2
R 4.1 A 2.3	R 4.2 Other Real-Life Graphs	R 4.3
R 3.1	R 4.3 Distance-Time Graphs	R 4.4
R 3.1 R 4.3 A 2.3 A 2.6 G 2.2 G 2.3	R 4.4 Speed-Time Graphs (Straight Lines)	R 4.5
R 3.1 R 4.4 A 2.3 A 2.6 G 2.2 G 2.3	R 4.5 Speed-Time Graphs (Curves)	

# ALGEBRA

<u>Pre-requisites</u>	<u>Titles</u>	<u>Next Steps</u>
	<b>A 1.1 Co-ordinates</b>	A 1.2 A 1.3 A 2.2
A 1.1	A 1.2 Midpoint of a Line	A 1.3
A 1.1 A 1.2	<b>A 1.3 3D Co-ordinates</b>	
A 1.1	<b>A 2.1 <math>x = a</math>, <math>y = b</math> Graphs</b>	A 2.2
A 1.1 A 3.9	<b>A 2.2 Plotting Linear Graphs (<math>y = mx + c</math>)</b>	A 2.3 A 2.4
A 2.2	A 2.3 Equations of Linear Graphs ( $y = mx + c$ )	A 2.4 A 2.5 A 2.6 A 2.7
A 2.2 A 2.3 A 3.12	A 2.4 Using $y = mx + c$ to Draw Linear Graphs	A 2.5
A 2.3 A 2.4 A 3.9 A 3.10 A 3.11	A 2.5 Using $y = mx + c$ to Solve Problems	A 2.6
A 2.3 A 3.9	A 2.6 Using Gradients and Co-ordinates to find $y = mx + c$	A 2.7
A 2.3 A 2.6 A 3.9 A 3.12	<b>A 2.7 Parallel &amp; Perpendicular Lines</b>	A 6.3
N 8.1	<b>A 3.1 Algebraic Notation</b>	A 3.2 A 3.3 A 3.4
A 3.1	<b>A 3.2 Collecting Like Terms</b>	A 3.3
N 8.1 N 8.2 A 3.1	<b>A 3.3 Multiplying Terms</b>	A 3.4 A 3.5 A 3.7
N 1.7 N 4.1 N 8.1 N 8.2 A 3.3	<b>A 3.4 Dividing Terms</b>	A 3.6 A 3.7 A 11.1
A 3.2 A 3.3	<b>A 3.5 Expanding Single Brackets</b>	A 3.6 A 4.1
N 1.7 A 3.4 A 3.5	A 3.6 Factorising into Single Brackets	A 4.2
N 4.1 N 4.5 N 8.1 N 8.2 N 8.3 A 3.3 A 3.4	A 3.7 Laws of Indices (Algebra)	
N 3.6	<b>A 3.8 Function Machines</b>	A 3.9 A 3.10
N 1.5 N 2.1 N 2.2 A 3.1 A 3.8	<b>A 3.9 Substitution</b>	A 3.10
N 1.5 N 2.1 N 2.2 N 3.6 A 3.1 A 3.8 A 3.9	<b>A 3.10 Solving Linear Equations</b>	A 3.11 A 3.12
N 1.5 N 2.1 N 2.2 A 3.2 A 3.5 A 3.9 A 3.10	A 3.11 Solving Linear Equations (with the unknown on both sides)	A 3.12
N 1.5 A 3.1 A 3.10 A 3.11	A 3.12 Changing the Subject	A 3.13
N 4.5 A 3.1 A 3.5 A 3.6 A 3.10 A 3.11 A 3.12 A 11.1	<b>A 3.13 Changing the Subject (Advanced)</b>	
N 2.1 N 2.2 A 3.1 A 3.2 A 3.3 A 3.5	A 4.1 Expanding Double Brackets	A 4.2 A 5.1

A 3.5 A 3.6 A 4.1	A 4.2 Factorising Quadratics	A 4.3 A 4.8
A 3.5 A 3.6 A 4.1 A 4.2	A 4.3 Factorising Quadratics (Advanced)	A 4.9
A 4.1	A 4.4 Completing the Square	A 4.11
N 1.5 A 2.2 A 3.9	A 4.5 Plotting Quadratic Graphs	A 4.6 A 4.12 A 4.13
A 2.1 A 4.5	A 4.6 Solving Quadratics - Graphically	A 4.7 A 4.12 A 4.13
A 2.1 A 2.2 A 4.5 A 4.6	A 4.7 Solving Quadratics - Graphically (Advanced)	A 4.12 A 4.13
A 3.6 A 3.10 A 4.2	A 4.8 Solving Quadratics - Factorising	A 4.9 A 4.12
A 3.6 A 3.10 A 4.2 A 4.3 A 4.8	A 4.9 Solving Quadratics - Factorising (Advanced)	A 4.12
N 4.1 N 10.1 N 11.1 A 3.9	A 4.10 Solving Quadratics - Quadratic Formula	A 4.12
N 10.1 A 3.10 A 4.4	A 4.11 Solving Quadratics - Completing the Square	A 4.12
A 4.6 A 4.7 A 4.8 A 4.9 A 4.10 A 4.11	A 4.12 Solving Quadratics - All Methods	A 4.13 A 8.1 A 8.2 A 9.2 A 11.4
A 3.9 A 4.5 A 4.6 A 4.8 A 4.10 A 4.11	A 4.13 Sketching Quadratic Graphs	
A 4.1	A 5.1 Expanding Triple Brackets	A 5.2
N 1.5 A 2.2 A 3.9 A 4.5	A 5.2 Cubic Graphs	A 6.1
A 2.2 A 3.9 A 4.5 A 5.2	A 6.1 Reciprocal Graphs	A 6.2
N 8.2 A 2.2 A 3.9 A 4.5 A 5.2 A 6.1	A 6.2 Exponential Graphs	A 6.3
A 2.3 A 2.6 A 2.7	A 6.3 Equations of Tangents to Circles	A 6.4
N 11.1 A 2.1 A 2.5	A 6.4 Trigonometric Graphs	A 6.5
A 1.1 A 4.13 A 5.2 A 6.4 G 9.1 G 9.3	A 6.5 Transformations of Graphs	A 12.1
	A 7.1 Inequalities on a Number Line	A 7.2
A 3.10 A 3.11 A 7.1	A 7.2 Solving Linear Inequalities	A 7.3
A 2.1 A 2.2 A 2.3 A 2.4 A 3.9 A 7.1 A 7.2	A 7.3 Solving Linear Inequalities Graphically	A 7.4
A 4.8 A 4.9 A 4.13 A 7.1	A 7.4 Solving Quadratic Inequalities	
N 11.1 A 3.9	A 8.1 Trial & Improvement	A 8.2
N 11.1 A 3.9 A 3.12 A 3.13	A 8.2 Iteration	
N 1.8 N 2.1 N 2.2 A 3.2 A 3.9 A 3.10	A 9.1 Simultaneous Equations - Linear	A 9.2

A 3.5 A 3.9 A 3.12 A 4.1 A 4.8 - A 4.12	A 9.2 Simultaneous Equations – Non-Linear	
A 3.1 A 3.9 A 3.10 A 7.2	A 10.1 Linear Sequences	A 10.2 A 10.3
N 8.1 A 3.9 A 10.1	A 10.2 Quadratic Sequences	A 10.3
A 10.1 A 10.2	A 10.3 Geometric & Fibonacci Sequences	
N 4.1 A 3.2 A 3.3 A 3.4 A 3.5 A 3.6 A 3.7 A 3.10 A 3.11 A 4.1 A 4.2 A 4.3 A 4.12 A 11.1	A 11.1 Algebraic Fractions - Simplify	A 11.2
N 4.1 A 3.2 A 3.3 A 3.4 A 3.5 A 3.6 A 3.7 A 3.10 A 3.11 A 4.1 A 4.2 A 4.3 A 4.12 A 11.1	A 11.2 Algebraic Fractions - Add/Subtract	A 11.3
N 4.1 A 3.2 A 3.3 A 3.4 A 3.5 A 3.6 A 3.7 A 3.10 A 3.11 A 4.1 A 4.2 A 4.3 A 4.12 A 11.1	A 11.3 Algebraic Fractions - Multiply/Divide	
A 3.5 A 3.8 A 3.9 A 3.10 A 3.11 A 3.12	A 12.1 Functions	A 6.5
A 3.1 A 3.2 A 3.3 A 3.5 A 3.6 A 4.1	A 13.1 Algebraic Proof	

## GEOMETRY

<u>Pre-requisites</u>	<u>Titles</u>	<u>Next Steps</u>
	G 1.1 2D Shapes - Properties	G 1.2 G 1.3 G 2.1 G 2.2 G 2.3 G 2.4 G 2.5 G 6.4 G 6.5 G 7.3
G 1.1	G 1.2 Symmetry	G 1.3 G 9.1 G 9.2
G 1.1	G 1.3 3D Shapes - Properties	G 1.4 G 4.1 G 4.2 G 4.3 G 4.4
G 1.3	G 1.4 Plans & Elevations	G 4.1 G 4.2 G 4.3 G 4.4
G 1.1	G 2.1 Perimeter	G 2.2 G 2.3 G 2.4 G 2.5 G 3.1
A 3.10 G 1.1 G 2.1 G 5.2	G 2.2 Area of Rectangles	G 2.3 G 2.4 G 2.5 G 3.3 G 4.1 G 4.2
A 3.10 G 1.1 G 2.1 G 2.2 G 5.2	G 2.3 Area of Parallelograms	G 2.4 G 2.5 G 3.3 G 4.1 G 4.2
A 3.10 G 1.1 G 2.1 G 2.2 G 2.3 G 5.2	G 2.4 Area of Triangles	G 2.5 G 3.3 G 4.1 G 4.2
A 3.10 G 1.1 G 2.1 G 2.2 G 2.3 G 2.4 G 5.2	G 2.5 Area of Trapezia	G 3.3 G 4.1 G 4.2
N 7.2 A 3.10 G 2.1 G 2.2	G 3.1 Circumference	G 3.2 G 3.3
N 4.1 N 4.5 N 4.7 A 3.10 G 2.1 G 3.1 G 6.2	G 3.2 Arc Length	G 3.3 G 3.4
N 7.2 A 3.10 G 2.2 G 2.4 G 3.1	G 3.3 Area of Circles	G 3.4 G 4.1 G 4.3

N 4.1 N 4.5 N 4.7 A 3.10 G 3.3 G 6.2	G 3.4 Area of Sectors	
G 1.3 G 2.2 G 2.3 G 2.4 G 2.5 G 3.1 G 3.3 G 4.3 G 10.1	G 4.1 Surface Area - Prisms & Cylinders	G 4.2 G 4.3
A 3.9 A 10 A 3.12 G 1.3 G 2.2 G 2.4 G 3.3 G 4.1 G 8.2 G 10.1 G 10.5	G 4.2 Surface Area – Spheres, Pyramids & Cones	G 4.4
N 8.1 A 3.10 G 1.3 G 2.2 G 2.3 G 2.4 G 2.5 G 3.3 G 5.1	G 4.3 Volume - Prisms & Cylinders	G 4.4
N 6.1 R 3.2 A 3.9 A 3.10 A 3.12 G 1.3 G 2.2 G 3.3 G 4.2 G 4.3 G 8.2 G 10.1 G 10.5	G 4.4 Volume - Pyramids, Cones & Spheres	
	G 5.1 Reading Scales	G 5.2
N 3.2	G 5.2 Converting Metric Units	G 2.2 G 2.3 G 2.4 G 2.5 G 5.3
N 3.2 G 2.2 G 4.3 G 5.2	G 5.3 Converting Units - Area/Volume	R 3.2 R 3.3 G 8.2
G 5.1	G 6.1 Angles - Types, Measure & Draw	G 6.2 G 6.6 G 7.3
G 6.1	G 6.2 Calculating Angles - Straight Lines & Full Turns	G 6.3 G 6.4 G 6.6
G 6.1 G 6.2	G 6.3 Calculating Angles - Parallel Lines	G 6.4 G 6.6
A 3.10 G 1.1 G 6.1 G 6.2 G 6.3 R 1.3	G 6.4 Calculating Angles - Triangles	G 6.5 G 6.6 G 7.3 G 8.1
A 3.10 G 1.1 G 6.1 G 6.2 G 6.4 R 1.3	G 6.5 Calculating Angles - Polygons	
G 5.2 G 6.1 G 6.2 G 6.3	G 6.6 Bearings	
G 6.1	G 7.1 Perpendicular Bisector & Angle Bisector	G 7.2
G 6.6 G 7.1	G 7.2 Loci	
G 5.1 G 6.1 G 7.1 G 7.2	G 7.3 Constructing Triangles	G 8.1
G 1.1 G 6.3 G 6.4 G 7.3 G 10.1	G 8.1 Congruence	G 8.2 G 9.1 G 9.2 G 9.3 G 9.4
N 3.4 N 3.5 N 4.5 N 4.6 N 8.1 R 1.4 R 2.1 R 2.2 G 4.3 G 5.3 G 6.3 G 9.1 G 9.2 G 9.3 G 9.4	G 8.2 Similarity	G 9.4
A 2.1 A 2.2 G 1.2 G 8.1	G 9.1 Reflection	G 9.2 G 9.3 G 9.4 G 9.5
A 1.1 G 1.2 G 6.1 G 8.1 G 9.1	G 9.2 Rotation	G 9.3 G 9.4 G 9.5
G 8.1 G 9.1 G 9.2	G 9.3 Translation	G 9.4 G 9.5 G 11.1
A 1.1 G 8.2 G 9.1 G 9.2 G 9.3	G 9.4 Enlargement	G 9.5
A 1.1 G 8.2 G 9.1 G 9.2 G 9.3 G 9.4	G 9.5 Enlargement (Negative Scale Factors)	
N 8.1 A 3.9 A 1.1 A 3.10 G 2.1-2 G 5.2	G 10.1 Pythagoras' Theorem	G 10.2
A 3.9 A 3.10 G 10.1	G 10.2 Trigonometry - Introduction	G 10.3

R 1.3 A 3.9 A 3.10 G 2.1-2.4 G 5.2 G 6.6 G 10.1 G 10.2	G 10.3 Trigonometry - Further	G 10.4 G 10.5 G 10.6 G 10.7
N 4.1 N 4.4 N 4.5 N 4.6 N 10.1 N 10.2 A 3.10 A 6.4 G 10.1-3	G 10.4 Trigonometry - Exact Values	G 10.5 G 10.6 G 10.7
A 3.10 G 6.2 G 6.3 G 6.4 G 8.1 G 10.2 G 10.3	G 10.5 Sine Rule	G 10.6 G 10.7
A 3.10 G 6.2 G 6.3 G 6.4 G 10.2 G 10.3 G 10.5	G 10.6 Cosine Rule	G 10.7
	G 10.7 Area of a Triangle	
	G 11.1 Vectors - Introduction	
	G 11.2 Vectors - Advanced	
	G 12.1 Circle Theorems	
	G 12.2 Further Circle Theorems	

## STATISTICS

<u>Pre-requisites</u>	<u>Titles</u>	<u>Next Steps</u>
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## PROBABILITY

<u>Pre-requisites</u>	<u>Titles</u>	<u>Next Steps</u>
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