

Checklist Comparison Table

Below is an approximate checklist of where each covered topic is needed.

Each topic is also colour coded...

Green for approx. GCSE grades 1-3

Blue for approx. GCSE grades 4&5

Purple for approx. GCSE grades 6-9

NUMBER

INTEGERS	Key Stage 3	Functional Skills Level 1	Functional Skills Level 2	GCSE Foundation	GCSE Higher
N 1.1 Adding Integers	✓	✓	✓	✓	
N 1.2 Subtracting Integers	✓	✓	✓	✓	
N 1.3 Multiplying Integers	✓	✓	✓	✓	
N 1.4 Dividing Integers	✓	✓	✓	✓	
N 1.5 Order of Operations	✓	✓	✓	✓	
N 1.6 Prime Numbers & Prime Factor Decomposition	✓			✓	✓
N 1.7 Factors & Highest Common Factor (HCF)	✓			✓	✓
N 1.8 Multiples & Lowest Common Multiple (LCM)	✓			✓	✓
NEGATIVE NUMBERS					
N 2.1 Adding & Subtracting Negative Numbers	✓	✓	✓	✓	
N 2.2 Multiplying & Dividing Negative Numbers	✓			✓	
DECIMALS					
N 3.1 Place Value & Ordering Decimals	✓	✓	✓	✓	
N 3.2 Multiplying & Dividing by 10, 100, 1000	✓	✓		✓	
N 3.3 Adding & Subtracting Decimals	✓	✓	✓	✓	
N 3.4 Multiplying Decimals	✓	✓	✓	✓	
N 3.5 Dividing Decimals	✓	✓	✓	✓	

N 3.6 Related Calculations	✓	✓	✓	✓	
FRACTIONS					
N 4.1 Equivalent Fractions	✓	✓	✓	✓	
N 4.2 Mixed Numbers & Improper Fractions	✓	✓	✓	✓	
N 4.3 Ordering Fractions	✓	✓	✓	✓	✓
N 4.4 Adding & Subtracting Fractions	✓		✓	✓	✓
N 4.5 Multiplying Fractions	✓			✓	
N 4.6 Dividing Fractions	✓			✓	
N 4.7 Fractions of an Amount	✓	✓		✓	
FRACTIONS, DECIMALS & PERCENTAGES					
N 5.1 Converting between Fractions, Decimals & Percentages	✓	✓	✓	✓	
N 5.2 Ordering Fractions, Decimals & Percentages	✓	✓	✓	✓	
N 5.3 Recurring Decimals					✓
PERCENTAGES					
N 6.1 Expressing One Quantity as a Percentage of Another	✓		✓	✓	
N 6.2 Percentages of an Amount (Non - Calculator)	✓	✓	✓	✓	
N 6.3 Percentages of an Amount (Calculator)	✓	✓	✓	✓	
N 6.4 Percentage Increase / Decrease	✓	✓	✓	✓	
N 6.5 Percentage Change	✓		✓	✓	✓
N 6.6 Reverse Percentages	✓		✓	✓	✓
N 6.7 Compound Interest			✓	✓	✓
ROUNDING					
N 7.1 Rounding - Nearest 10, 100, 1000	✓	✓		✓	
N 7.2 Rounding - Nearest Whole Number & Decimal Places	✓	✓	✓	✓	
N 7.3 Rounding - Significant Figures	✓			✓	
N 7.4 Truncating				✓	✓
N 7.5 Estimation	✓	✓	✓	✓	✓
N 7.6 Error Intervals	✓			✓	✓
N 7.7 Calculating with Upper & Lower Bounds					✓
INDICES					
N 8.1 Indices - Squares, Cubes & Powers	✓	✓		✓	
N 8.2 Laws of Indices	✓			✓	✓
N 8.3 Fractional Indices					✓
STANDARD FORM					
N 9.1 Standard Form	✓			✓	✓
N 9.2 Calculating with Standard Form				✓	✓

SURDS					
N 10.1 Surds					✓
N 10.2 Rationalising the Denominator					✓
CALCULATIONS					
N 11.1 Using a Calculator	✓	✓	✓	✓	✓
N 11.2 Time	✓	✓		✓	
N 11.3 Money	✓	✓	✓	✓	
N 11.4 Exchange Rates	✓			✓	

RATIO, PROPORTION & RATES OF CHANGE

RATIO	Key Stage 3	Functional Skills Level 1	Functional Skills Level 2	GCSE Foundation	GCSE Higher
R 1.1 Introduction to Ratio	✓	✓	✓	✓	
R 1.2 Simplifying Ratio	✓	✓	✓	✓	
R 1.3 Sharing in a Ratio	✓	✓	✓	✓	✓
R 1.4 Ratio Problems	✓	✓	✓	✓	✓
PROPORTION					
R 2.1 Introduction to Proportion	✓	✓	✓	✓	
R 2.2 Direct & Inverse Proportion	✓		✓	✓	✓
R 2.3 Direct Proportion (Algebra)					✓
R 2.4 Inverse Proportion (Algebra)					✓
COMPOUND MEASURES					
R 3.1 Speed	✓		✓	✓	
R 3.2 Density	✓		✓	✓	✓
R 3.3 Pressure				✓	✓
REAL-LIFE GRAPHS					
R 4.1 Conversion Graphs	✓		✓	✓	
R 4.2 Other Real-Life Graphs	✓			✓	✓
R 4.3 Distance-Time Graphs	✓			✓	
R 4.4 Speed-Time Graphs (Straight Lines)					✓
R 4.5 Speed-Time Graphs (Curves)					✓

ALGEBRA

CO-ORDINATES	Key Stage 3	Functional Skills Level 1	Functional Skills Level 2	GCSE Foundation	GCSE Higher
A 1.1 Co-ordinates	✓		✓	✓	

A 1.2 Midpoint of a Line	✓			✓	✓
A 1.3 3D Co-ordinates					✓
LINEAR GRAPHS					
A 2.1 $x = a, y = b$ Graphs	✓			✓	
A 2.2 Plotting Linear Graphs ($y = mx + c$)	✓			✓	
A 2.3 Equations of Linear Graphs ($y = mx + c$)	✓			✓	✓
A 2.4 Using $y = mx + c$ to Draw Linear Graphs	✓			✓	✓
A 2.5 Using $y = mx + c$ to Solve Problems	✓			✓	✓
A 2.6 Using Gradients and Co-ordinates to find $y = mx + c$				✓	✓
A 2.7 Parallel & Perpendicular Lines				PARALLEL ONLY	✓
ALGEBRA					
A 3.1 Algebraic Notation	✓		✓	✓	
A 3.2 Collecting Like Terms	✓			✓	
A 3.3 Multiplying Terms	✓			✓	
A 3.4 Dividing Terms	✓			✓	
A 3.5 Expanding Single Brackets	✓			✓	
A 3.6 Factorising into Single Brackets	✓			✓	✓
A 3.7 Laws of Indices (Algebra)	✓			✓	✓
A 3.8 Function Machines	✓	✓	✓	✓	
A 3.9 Substitution	✓		✓	✓	
A 3.10 Solving Linear Equations	✓			✓	
A 3.11 Solving Linear Equations (with the unknown on both sides)	✓			✓	✓
A 3.12 Changing the Subject	✓			✓	✓
A 3.13 Changing the Subject (Advanced)					✓
QUADRATICS					
A 4.1 Expanding Double Brackets	✓			✓	✓
A 4.2 Factorising Quadratics				✓	✓
A 4.3 Factorising Quadratics (Advanced)					✓
A 4.4 Completing the Square					✓
A 4.5 Plotting Quadratic Graphs	✓			✓	✓
A 4.6 Solving Quadratics - Graphically	✓			✓	✓
A 4.7 Solving Quadratics - Graphically (Advanced)					✓
A 4.8 Solving Quadratics - Factorising				✓	✓
A 4.9 Solving Quadratics - Factorising (Advanced)					✓
A 4.10 Solving Quadratics - Quadratic Formula					✓
A 4.11 Solving Quadratics - Completing the Square					✓

A 4.12 Solving Quadratics - All Methods					✓
A 4.13 Sketching Quadratic Graphs					✓
CUBICS					
A 5.1 Expanding Triple Brackets					✓
A 5.2 Cubic Graphs				✓	✓
OTHER GRAPHS					
A 6.1 Reciprocal Graphs	✓			✓	✓
A 6.2 Exponential Graphs	✓				✓
A 6.3 Equations of Tangents to Circles					✓
A 6.4 Trigonometric Graphs					✓
A 6.5 Transformations of Graphs					✓
INEQUALITIES					
A 7.1 Inequalities on a Number Line	✓			✓	✓
A 7.2 Solving Linear Inequalities				✓	✓
A 7.3 Solving Linear Inequalities Graphically					✓
A 7.4 Solving Quadratic Inequalities					✓
ITERATION					
A 8.1 Trial & Improvement					✓
A 8.2 Iteration					✓
SIMULTANEOUS EQUATIONS					
A 9.1 Simultaneous Equations - Linear	✓			✓	✓
A 9.2 Simultaneous Equations – Non-Linear					✓
SEQUENCES					
A 10.1 Linear Sequences	✓			✓	✓
A 10.2 Quadratic Sequences					✓
A 10.3 Geometric & Fibonacci Sequences	✓			✓	✓
ALGEBRAIC FRACTIONS					
A 11.1 Algebraic Fractions - Simplify					✓
A 11.2 Algebraic Fractions - Add/Subtract					✓
A 11.3 Algebraic Fractions - Multiply/Divide					✓
FUNCTIONS					
A 12.1 Functions					✓
PROOF					
A 13.1 Algebraic Proof					✓

GEOMETRY

SHAPES	Key Stage 3	Functional Skills Level 1	Functional Skills Level 2	GCSE Foundation	GCSE Higher
G 1.1 2D Shapes - Properties	✓	✓	✓	✓	
G 1.2 Symmetry	✓	✓		✓	
G 1.3 3D Shapes - Properties	✓	✓	✓	✓	
G 1.4 Plans & Elevations	✓	✓	✓	✓	
PERIMETER & AREA					
G 2.1 Perimeter	✓	✓	✓	✓	
G 2.2 Area of Rectangles	✓	✓	✓	✓	
G 2.3 Area of Parallelograms	✓			✓	
G 2.4 Area of Triangles	✓		✓	✓	
G 2.5 Area of Trapezia	✓			✓	
CIRCLES					
G 3.1 Circumference	✓		✓	✓	
G 3.2 Arc Length				✓	✓
G 3.3 Area of Circles	✓		✓	✓	
G 3.4 Area of Sectors				✓	✓
SURFACE AREA & VOLUME					
G 4.1 Surface Area - Prisms & Cylinders	✓		✓	✓	✓
G 4.2 Surface Area – Spheres, Pyramids & Cones				✓	✓
G 4.3 Volume - Prisms & Cylinders	✓	✓	✓	✓	
G 4.4 Volume – Spheres, Pyramids & Cones				✓	✓
UNITS					
G 5.1 Reading Scales	✓	✓		✓	
G 5.2 Converting Metric Units	✓	✓	✓	✓	
G 5.3 Converting Units - Area/Volume	✓			✓	✓
ANGLES					
G 6.1 Angles - Types, Measure & Draw	✓	✓	✓	✓	
G 6.2 Calculating Angles - Straight Lines & Full Turns	✓			✓	
G 6.3 Calculating Angles - Parallel Lines	✓			✓	
G 6.4 Calculating Angles - Triangles	✓		✓	✓	
G 6.5 Calculating Angles - Polygons	✓		✓	✓	
G 6.6 Bearings	✓	✓		✓	✓
CONSTRUCTIONS					
G 7.1 Perpendicular Bisector & Angle Bisector	✓			✓	✓

G 7.2 Loci	✓			✓	✓
G 7.3 Constructing Triangles	✓			✓	
CONGRUENCE & SIMILARITY					
G 8.1 Congruence	✓			✓	✓
G 8.2 Similarity	✓			✓	✓
TRANSFORMATIONS					
G 9.1 Reflection	✓			✓	
G 9.2 Rotation	✓			✓	
G 9.3 Translation	✓			✓	
G 9.4 Enlargement	✓			✓	✓
G 9.5 Enlargement (Negative Scale Factors)					✓
PYTHAGORAS & TRIGONOMETRY					
G 10.1 Pythagoras' Theorem	✓			✓	✓
G 10.2 Trigonometry – Introduction	✓			✓	✓
G 10.3 Trigonometry – Further	✓			✓	✓
G 10.4 Trigonometry - Exact Values				✓	✓
G 10.5 Sine Rule					✓
G 10.6 Cosine Rule					✓
G 10.7 Area of a Triangle					✓
VECTORS					
G 11.1 Vectors				✓	✓
CIRCLE THEOREMS					
G 12.1 Circle Theorems					✓
G 12.2 Further Circle Theorems					✓

STATISTICS

DATA COLLECTION	Key Stage 3	Functional Skills Level 1	Functional Skills Level 2	GCSE Foundation	GCSE Higher
S 1.1 The Data Handling Cycle & Questionnaires				✓	
S 1.2 Sampling & Capture, Recapture				✓	✓
S 1.3 Types of Data	✓			✓	
S 1.4 Tally Charts	✓	✓		✓	
S 1.5 Two - Way Tables	✓	✓	✓	✓	
AVERAGES					
S 2.1 Mean, Median, Mode, Range	✓	✓	✓	✓	
S 2.2 Averages from a Table	✓		✓	✓	✓

CHARTS & GRAPHS					
S 3.1 Pictograms & Bar Charts	✓	✓		✓	
S 3.2 Pie Charts	✓	✓		✓	
S 3.3 Stem & Leaf Diagrams	✓			✓	
S 3.4 Frequency Polygons	✓			✓	
S 3.5 Time Series	✓			✓	
S 3.6 Scatter Graphs	✓		✓	✓	✓
S 3.7 Cumulative Frequency Diagrams					✓
S 3.8 Box Plots					✓
S 3.9 Histograms					✓

PROBABILITY

PROBABILITY	Key Stage 3	Functional Skills Level 1	Functional Skills Level 2	GCSE Foundation	GCSE Higher
P 1.1 Basic Probability	✓	✓	✓	✓	
P 1.2 Relative Frequency	✓			✓	✓
COMBINED PROBABILITY					
P 2.1 Listing Outcomes, Sample Spaces & Frequency Trees	✓		✓	✓	✓
P 2.2 Tree Diagrams				✓	✓
P 2.3 Venn Diagrams	✓			✓	✓
P 2.4 Product Rule for Counting					✓