

Maths year 7 curriculum roadmap

Maths Year 7 Progression Map

KS2 Prior Learning

In KS3 students build on their knowledge of numeracy, geometry and data handling, developing confidence and fluency.



Geometry

Measure of lines & angles; reading & interpreting scales; using standard metric units; recognising properties of 2D and 3D shapes; perimeter & area of rectangles; area of a triangle; compass bearings; reflecting shapes.



Number & Calculation

Order positive and negative integers; place value; column method for addition & subtraction, all times tables up to 12 x 12; multiply & divide by powers of 10; simplify fractions; equivalent fractions; simplify ratio.

Algebra & Graphs

Use inverse operations; recognise inequality symbols; coordinates in the first quadrant.



Set 3



Probability & Statistics

Single event probability; mutually exclusive events, mean, median, mode & range from a list of numbers; read data from tables; dual bar graphs; plot points on a scatter graph.



Algebra & Graphs

Understand and interpret algebraic notation; simplifying algebraic expressions; solving one step linear equations using function machines; coordinates in all 4 quadrants; find next term in a linear sequence, Fibonacci sequences.



Number & Calculation

Order positive and negative integers; inverse operations; long multiplication; bus stop division; HCF and LCM (listing method), squares and square roots; find fractions of amounts; add & subtract fractions with different denominators; multiply & divide fractions; convert between F, D and P; divide amounts in a given ratio.

Set 2



Probability & Statistics

Probability scale; tally charts & frequency tables; read & draw bar graphs; pictograms.



Geometry

Interpret measurements on maps & scale drawings; area of a parallelogram; volume of a cuboid; area of rectilinear shapes; properties of different quadrilaterals; plans & elevations; measure & draw angles using a protractor; finding missing angles in triangles & quadrilaterals; rotational symmetry; reflect shapes in diagonal lines; rotate shapes.



Geometry

Convert between different metric units; use scale factors and scale diagrams on maps; calculate the area of a trapezium; surface area of a cuboid; area and circumference of a circle; similar & congruent shapes; angles in a polygon; constructing triangles; reflecting shapes in named horizontal and vertical lines; describe translations; draw nets of common 3D shapes.



Set 1

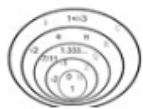
Algebra & Graphs

Substitute values into expressions; expanding single brackets; factorising into a single bracket; solving two-step equations; represent inequalities on a number line; plot linear graphs; recognise parallel & perpendicular lines; find the general rule for a linear sequence



Probability & Statistics

Probability diagrams; calculating theoretical probabilities using AND and OR rules; types of data; 2-way tables; mode and range from bar charts; stem & leaf tables; lines of best fit; recognizing correlation on scatter graphs



Number & Calculation

Find a decimal closest to another decimal; order fractions; order of operations; factor trees; HCF and LCM (Venn diagram method); rounding to decimal places; converting from mixed numbers to improper fractions; percentage of amounts; best buy problems; share amounts in a given ratio.

Exam Skills and Interleaved Revision

Ensuring all knowledge which has been acquired over 5 years is secure

Maths year 8 curriculum roadmap

Maths Year 8 Progression Map

KS2 Prior Learning

In KS3 students build on their knowledge of numeracy, geometry and data handling, developing confidence and fluency.

Geometry

Interpret measurements on maps & scale drawings; area of a parallelogram; volume of a cuboid; area of rectilinear shapes; properties of different quadrilaterals; plans & elevations; measure & draw angles using a protractor; finding missing angles in triangles & quadrilaterals; rotational symmetry; reflect shapes in diagonal lines; rotate shapes.

Number & Calculation

Order positive and negative integers; inverse operations; long multiplication; bus stop division; HCF and LCM (listing method), squares and square roots; find fractions of amounts; add & subtract fractions with different denominators; multiply & divide fractions; convert between F, D and P; divide amounts in a given ratio.

Algebra & Graphs

Understand and interpret algebraic notation; simplifying algebraic expressions; solving one step linear equations using function machines; coordinates in all 4 quadrants; find next term in a linear sequence, Fibonacci sequences.

Probability & Statistics

Single event probability; mutually exclusive events, mean, median, mode & range from a list of numbers; read data from tables; dual bar graphs; plot points on a scatter graph.

Set 3

Number & Calculation

Find a decimal closest to another decimal; order fractions; order of operations; factor trees; HCF and LCM (Venn diagram method); rounding to decimal places.; converting from mixed numbers to improper fractions; percentage of amounts; best buy problems; share amounts in a given ratio.

Geometry

Convert between different metric units; use scale factors and scale diagrams on maps; calculate the area of a trapezium; surface area of a cuboid; area and circumference of a circle; recognise similar & congruent shapes; angles in a polygon; constructing triangles; reflecting shapes in named horizontal and vertical lines; describe translations; draw nets of common 3D shapes.

Set 2

Algebra & Graphs

Substitute values into expressions; expanding single brackets; factorising into a single bracket; solving two-step equations; represent inequalities on a number line; plot linear graphs; recognise parallel & perpendicular lines; find the general rule for a linear sequence

Geometry

Convert between metric units of area & volume; calculate & use compound units; Pythagoras' theorem; area & circumference of circles using multiples of π ; labelling parts of a circle; angles on parallel lines; bearings; describing transformations; constructing perpendicular bisectors & angle bisectors.

Algebra & Graphs

Rearrange formulae, basic laws of indices; solving linear equations with unknowns on both sides; simultaneous equations; $y = mx + c$; sketch quadratic graphs; nth term of a linear sequence.

Exam Skills and Interleaved Revision

Ensuring all knowledge which has been acquired over 5 years is secure

Set 1

Probability & Statistics

Probability diagrams; calculating theoretical probabilities using AND & OR rules; types of data; 2-way tables; mode and range from bar charts; stem & leaf tables; lines of best fit; recognizing correlation on scatter graphs

Number & Calculation

Estimating answers; multiplication & division with decimals, rounding to sig fig; percentage change; simple interest problems.

Probability & Statistics

Listing outcomes; Venn diagrams; probability from 2-way tables; averages from grouped data; pie charts; stem & leaf tables; make predictions from line of best fit.

Maths year 9 curriculum roadmap

Maths Year 9 Progression Map

KS2 Prior Learning
In KS3 students build on their knowledge of numeracy, geometry and data handling, developing confidence and fluency.



Geometry
Convert between different metric units; use scale factors and scale diagrams on maps; calculate the area of a trapezium; surface area of a cuboid; area and circumference of a circle; recognise similar & congruent shapes; angles in a polygon; constructing triangles; reflecting shapes in named horizontal and vertical lines; describe translations; draw nets of common 3D shapes.



Number & Calculation

Find a decimal closest to another decimal; order fractions; order of operations; factor trees; HCF and LCM (Venn diagram method); rounding to decimal places; converting from mixed numbers to improper fractions; percentage of amounts; best buy problems; share amounts in a given ratio.

Set 3



Algebra & Graphs

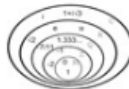
Rearrange formulae, basic laws of indices; solving linear equations with unknowns on both sides; simultaneous equations; $y = mx + c$; sketch quadratic graphs; nth term of a linear sequence.



Probability & Statistics

Listing outcomes; Venn diagrams; probability from 2-way tables; averages from data in tables; pie charts; stem & leaf tables; make predictions from line of best fit.

Set 1



Number & Calculation

Standard form; error intervals and limits of accuracy; percentage increase and decrease; reverse percentages; compound interest; direct & indirect proportion.



Geometry

Plotting distance-time graphs; recalling exact trig values; right-angled trigonometry; volume & surface area of a cylinder and other prisms, arc length & area of sector; fractional scale factor enlargements; column vector notation; loci problems

Geometry

Convert between metric units of area & volume; calculate & use compound units; Pythagoras' theorem; area & circumference of circles using multiples of π ; labelling parts of a circle; angles on parallel lines; bearings; describing transformations; constructing perpendicular bisectors & angle bisectors.

Set 2



Algebra & Graphs

Substitute values into expressions; expanding single brackets; factorising into a single bracket; solving two-step equations; represent inequalities on a number line; plot linear graphs; recognise parallel & perpendicular lines; find the general rule for a linear sequence



Probability & Statistics

Probability diagrams; calculating theoretical probabilities using AND & OR rules; types of data; 2-way tables; mode and range from bar charts; stem & leaf tables; lines of best fit; recognizing correlation on scatter graphs



Algebra & Graphs

Negative and fractional laws of indices; expanding double brackets; factorising quadratics; deriving simultaneous equations; sketch cubic & reciprocal functions; geometric progressions;



Probability & Statistics

Probability trees; averages from grouped data; limitations of sampling.

Exam Skills and Interleaved Revision

Ensuring all knowledge which has been acquired over 5 years is secure

Maths year 10 and 11 curriculum roadmap

Maths Year 10 & 11 Progression Map

KS3 Prior Learning
In KS4 students build on their knowledge of numeracy, geometry and data handling, developing confidence and fluency.



Geometry
Convert between metric units of area & volume; calculate & use compound units; Pythagoras' theorem; area & circumference of circles using multiples of π ; labelling parts of a circle; angles on parallel lines; bearings; describing transformations; constructing perpendicular bisectors & angle bisectors.



Number & Calculation
Estimating answers; multiplication & division with decimals, rounding to sig fig; percentage change; simple interest problems.

Set 3



Algebra & Graphs
Negative and fractional laws of indices; expanding double brackets; factorising quadratics; deriving simultaneous equations; sketch cubic & reciprocal functions; geometric progressions;



Number & Calculation
Standard form; error intervals and limits of accuracy; percentage increase and decrease; reverse percentages; compound interest; direct & indirect proportion.

Geometry
Plotting distance-time graphs; recalling exact trig values; right-angled trigonometry; volume & surface area of a cylinder and other prisms, arc length & area of sector; fractional scale factor enlargements; column vector notation; loci problems



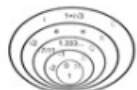
Set 2



Probability & Statistics
Listing outcomes; Venn diagrams; probability from 2-way tables; averages from data in tables; pie charts; stem & leaf tables; make predictions from line of best fit.



Probability & Statistics
Probability trees; averages from grouped data; limitations of sampling.



Number & Calculation
Calculations with surds; algebraic HCF and LCM; recurring decimals to fractions; exponential growth & decay; direct & inverse proportion with algebra.

Set 1



Geometry
Upper and lower bounds; 3D Pythagoras'; non right-angled trigonometry; Pythagoras' linked to volume of triangular prisms; surface area & volume of spheres, cones & pyramids; area & volume of similar shapes; circle theorems; vector geometry; combining transformations



Algebra & Graphs
Algebraic fractions; algebraic proof; factorising harder quadratics; completing the square; quadratic formula; expanding triple brackets; function notation; iterative methods; simultaneous equations (one quadratic, one linear); trigonometric graphs; graph transformations; exponential functions, nth term of a quadratic number sequence.



Probability & Statistics
Cumulative frequency curves; box plots; probability trees (non-replacement); stratified sampling; histograms

Exam Skills and Interleaved Revision

Ensuring all knowledge which has been acquired over 5 years is secure