AQA Modular specification mapping

Specification Point	Boardworks presentation(s)
Unit 1: Statistics and Probability	
N1.3 Understand and use number operations and the relationships between them, including inverse operations and hierarchy of operations.	Decimal calculations; Decimals; Formulae; Fractions; Index laws; Integers; LCM and HCF; Manipulating formulae; Multiples, factors and prime numbers; Percentages; Powers and roots; Proportion; Ratio; Rounding; Working with fractions; Number and Algebra 1; Number and Algebra 2; Number and Algebra 3
N1.4 Approximate to a given power of 10, up to three decimal places and one significant figure.	Rounding
N1.4h Approximate to specified or appropriate degrees of accuracy, including a given number of decimal places and significant figures.	Rounding
N1.10h Interpret, order and calculate numbers written in standard index form.	Standard form
N1.13h Calculate and use upper and lower bounds.	Rounding
N1.14 Use calculators effectively and efficiently, including statistical functions.	Integers; LCM and HCF; Multiples, factors and prime numbers; Standard form; Surds; Powers and roots; Simple fractions; Working with fractions; Decimals; Decimal calculations; Percentages; Percentage changes; Ratio; Proportion; Powers and proportion; Sampling methods; Calculating averages; Number and Algebra 1; Number and Algebra 2; Number and Algebra 3

N2.1 Understand equivalent fractions, simplifying a fraction by cancelling all common factors.	Simple fractions; Working with fractions; Decimals
N2.5 Understand that ‘percentage’ means ‘number of parts per 100’ and use this to compare proportions.	Percentage; Percentage changes; Proportion; Powers and proportion
N2.6 Interpret fractions, decimals, percentages as operators.	Simple fractions; Working with fractions; Decimals; Decimal calculations; Percentages; Percentage changes; Number and Algebra 1
N2.7 Calculate with fractions, decimals and percentages.	Simple fractions; Working with fractions; Decimals; Decimal calculations; Percentages; Percentage changes; Number and Algebra 1
N2.7h Including reverse percentage calculations.	Percentage changes
N3.1 Use ratio notation, including reduction to its simplest form and its various links to fraction notation.	Ratio
N3.3 Solve problems involving ratio and proportion, including the unitary method of solution.	Ratio; Proportion; Powers and proportion
N3.3h Repeated proportional change.	Proportion; Powers and proportion
N4.1 Distinguish the different roles played by letter symbols in algebra, using the correct notation.	Linear equations; Functions; Number and Algebra 2
N4.2 Distinguish in meaning between the words ‘equation’, ‘formula’, and ‘expression’.	Linear equations; Formulae; Manipulating formulae
N6.12 Discuss, plot and interpret graphs modelling real situations in statistics contexts.	The data handling cycle; Bar charts, line graphs and pie charts; Continuous data; Cumulative frequency and box plots; Data collection; Drawing frequency polygons; Stem-and-leaf and scatter graphs

S1 Understand and use the statistical problem solving process which involves: specifying the problem and planning; collecting data; processing and presenting the data; interpreting and discussing the results.	The data handling cycle; Continuous data; Bar charts, line graphs and pie charts; Data collection; Stem-and-leaf and scatter graphs; Cumulative frequency and box plots; Drawing frequency diagrams
S2.1 Types of data: qualitative, discrete, continuous. Use of grouped and ungrouped data.	The data handling cycle; Data collection; Continuous data
S2.2 Identify possible sources of bias.	The data handling cycle; Data collection
S2.3 Design an experiment or survey.	The data handling cycle; Data collection; Statistics and Probability 1
S2.4 Design data-collection sheets distinguishing between different types of data.	Data collection
S2.5 Extract data from printed tables and lists.	Data collection; The data handling cycle; Statistics and Probability 1
S3.1 Design and use two-way tables for grouped and ungrouped data.	Bar charts, line graphs and pie charts
S3.2 Produce charts and diagrams for various data types. Scatter graphs, stem-and-leaf, tally charts, pictograms, bar charts, dual bar charts, pie charts, line graphs, frequency polygons, histograms with equal class intervals.	Bar charts, line graphs and pie charts; Stem-and-leaf and scatter graphs; Drawing frequency diagrams; Statistics and Probability 1
S3.2h Histograms with unequal class intervals, box plots, cumulative frequency diagrams, relative frequency diagrams.	Drawing frequency diagrams; Cumulative frequency and box plots; Statistics and Probability 1
S3.3 Calculate median, mean, range, mode and modal class.	Calculating averages; Statistics and Probability 1
S3.3h Quartiles and inter-quartile range	Calculating averages

S4.1 Interpret a wide range of graphs and diagrams and draw conclusions.	Bar charts, line graphs and pie charts; Stem-and-leaf and scatter graphs; Drawing frequency diagrams; Cumulative frequency and box plots; Continuous data; Statistics and Probability 1
S4.2 Look at data to find patterns and exceptions.	Bar charts, line graphs and pie charts; Stem-and-leaf and scatter graphs; Drawing frequency diagrams; Cumulative frequency and box plots; Continuous data
S4.3 Recognise correlation and draw and/or use lines of best fit by eye, understanding what these represent.	Stem-and-leaf and scatter graphs
S4.4 Compare distributions and make inferences.	Bar charts, line graphs and pie charts; Stem-and-leaf and scatter graphs; Drawing frequency diagrams; Cumulative frequency and box plots; Continuous data
S5.1 Understand and use the vocabulary of probability and the probability scale.	Probability; Statistics and Probability 2
S5.2 Understand and use estimates or measures of probability from theoretical models (including equally likely outcomes), or from relative frequency.	Experimental probability; Statistics and Probability 2
S5.3 List all outcomes for single events, and for two successive events, in a systematic way and derive related probabilities.	Combined probability
S5.4 Identify different mutually exclusive outcomes and know that the sum of the probabilities of all these outcomes is 1.	Combined probability; Statistics and Probability 2
S5.5h Know when to add or multiply two probabilities: if A and B are mutually exclusive, then the probability of A or B occurring is P(A) + P(B), whereas if A and B are independent events, the probability of A and B occurring is P(A) × P(B).	Combined probability

S5.6h Use tree diagrams to represent outcomes of compound events, recognising when events are independent.	Tree diagrams; Statistics and Probability 2
S5.7 Compare experimental data and theoretical probabilities.	Experimental probability
S5.8 Understand that if an experiment is repeated, this may – and usually will – result in different outcomes.	Experimental probability
S5.9 Understand that increasing sample size generally leads to better estimates of probability and population characteristics.	Sampling methods
Unit 2: Number and Algebra	
N1.1 Understand integers and place value to deal with arbitrarily large positive numbers.	Integers; Decimals; Rounding
N1.2 Add, subtract, multiply and divide any number.	Decimal calculations; Integers; Decimals; Multiples, factors and prime numbers; Simple fractions; Working with fractions; Percentages; Percentage changes; Ratio; Index laws; Index laws 2; Formulae; Manipulating formulae; LCM and HCF; Working with brackets; Number and Algebra 1; Number and Algebra 2; Number and Algebra 3
N1.3 Understand and use number operations and the relationships between them, including inverse operations and hierarchy of operations.	Decimal calculations; Decimals; Formulae; Fractions; Index laws; Integers; LCM and HCF; Manipulating formulae; Multiples, factors and prime numbers; Percentages; Powers and roots; Proportion; Ratio; Rounding; Working with fractions; Number and Algebra 1; Number and Algebra 2; Number and Algebra 3
N1.4 Approximate to a given power of 10, up to three decimal places and one significant figure.	Rounding

N1.4h Approximate to specified or appropriate degrees of accuracy, including a given number of decimal places and significant figures.	Rounding
N1.5 Order rational numbers.	Integers; Decimals
N1.6 The concepts and vocabulary of factor (divisor), multiple, common factor, highest factor, least common multiple, prime number and prime factor decomposition.	LCM and HCF; Multiples, factors and prime numbers
N1.7 The terms square, positive and negative square root, cube and cube root.	Integers; Powers and roots; Number and Algebra 3
N1.8 Index notation for squares, cubes and powers of 10.	Integers; Powers and roots; Number and Algebra 3
N1.9 Index laws for multiplication and division of integer powers.	Indew laws; Index laws 2; Powers and roots
N1.9h Fractional and negative powers.	Index laws 2
N1.10h Interpret, order and calculate numbers written in standard index form.	Standard Form
N1.11h Surds and π in exact calculations.	Surds
N1.12h Rules of arithmetic applied to calculations and manipulations with surds.	Surds
N2.1 Understand equivalent fractions, simplifying a fraction by cancelling all common factors.	Simple fractions; Working with fractions; Decimals
N2.2 Add and subtract fractions.	Simple fractions; Working with fractions;
N2.3 Use decimal notation and recognise that each terminating decimal is a fraction.	Decimals

N2.4 Recognise that recurring decimals are exact fractions, and that some exact fractions are recurring decimals.	Decimals
N2.5 Understand that ‘percentage’ means ‘number of parts per 100’ and use this to compare proportions.	Percentage; Percentage changes; Proportion; Powers and proportion
N2.6 Interpret fractions, decimals, percentages as operators.	Simple fractions; Working with fractions; Decimals; Decimal calculations; Percentages; Percentage changes
N2.7 Calculate with fractions, decimals and percentages.	Simple fractions; Working with fractions; Decimals; Decimal calculations; Percentages; Percentage changes
N2.7h Including reverse percentage calculations.	Percentage changes
N3.1 Use ratio notation, including reduction to its simplest form and its various links to fraction notation.	Ratio
N3.2 Divide a quantity in a given ratio.	Ratio
N3.3 Solve problems involving ratio and proportion, including the unitary method of solution.	Ratio; Proportion; Powers and proportion
N4.1 Distinguish the different roles played by letter symbols in algebra, using the correct notation.	Linear equations; Functions
N4.2 Distinguish in meaning between the words ‘equation’, ‘formula’, and ‘expression’.	Linear equations; Formulae; Manipulating formulae
N4.2h And ‘identity’.	Linear equations; Formulae; Manipulating formulae; Algebraic fractions
N5.1 Manipulate algebraic expressions by collecting like terms, by multiplying a single term over a bracket, and by taking out common factors.	Linear equations; Factorizing; Working with brackets; Number and Algebra 2

N5.1h Multiply two linear expressions.	Linear equations; Solving quadratics; Working with brackets
N5.2h Factorise quadratic expressions, including the difference of two squares.	Factorizing; Solving quadratics
N5.3h Simplify rational expressions.	Algebraic fractions; More quadratics
N5.4 Set up and solve simple linear equations.	Linear equations; Number and Algebra 2
N5.4h Including simultaneous equations in two unknowns.	Simultaneous equations 1; Simultaneous equations 2
N5.5h Solve quadratic equations.	Solving quadratics; More quadratics; Factorizing
N5.6 Derive a formula, substitute numbers into a formula and change the subject of a formula.	Formulae; Manipulaing formulae; Number and Algebra 2
N5.7 Solve linear inequalities in one variable and represent the solution set on a number line.	Simple inequalities
N5.7h Solve linear inequalities in two variables, and represent the solution set on a suitable diagram.	Advanced inequalities
N5.9 Use algebra to support and construct arguments	Working with brackets; Index laws; Number and Algebra 2; Number and Algebra 3
N5.9h. Use algebra to construct simple proofs.	Algebraic fractions; Decimals; Integers; Manipulating formulae
N6.1 Generate terms of a sequence using term-to-term and position-to-term definitions of the sequence.	Generating sequences; Geometric sequences; Other sequences

N6.2 Use linear expressions to describe the *n* th term of an arithmetic sequence.	Generating sequences
N6.3 Use the conventions for coordinates in the plane and plot points in all four quadrants, including using geometric information.	Linear graphs; Graphs of non-linear functions
N6.4 Recognise and plot equations that correspond to straight-line graphs in the coordinate plane, including finding their gradients.	Linear graphs; Number and Algebra 4
N6.5h Understand that the form $y = mx + c$ represents a straight line and that m is the gradient of the line and c is the value of the y - intercept.	Linear graphs; Number and Algebra 4
N6.6h Understand the gradients of parallel lines.	Linear graphs
N6.11 Construct linear functions from real-life problems and plot their corresponding graphs.	Real-life graphs; Number and Algebra 4
N6.12 Discuss, plot and interpret graphs (which may be non-linear) modelling real situations.	Real-life graphs; Number and Algebra 4
Unit 3: Geometry and Measures	
N1.3 Understand and use number operations and the relationships between them, including inverse operations and hierarchy of operations.	Applying Pythagoras' Theorem; Area; Circles; Circle calculations; Cubes and cuboids; Enlargement; Measures; More measures; Polygons; Pythagoras' Theorem
N1.4 Approximate to a given power of 10, up to three decimal places and one significant figure.	Rounding
N1.4h Approximate to specified or appropriate degrees of accuracy, including a given number of decimal places and significant figures.	Rounding

N1.14 Use calculators effectively and efficiently.	3-D shapes; Applying Pyhtagoras' Theorem; Area; Circles; Circle calculations; Cubes and cuboids; Enlargement; Measures; More measures; Polygons; Pythagoras' Theorem
N1.14h Including trigonometrical functions.	Trigonometry; Trig graphs and rules; Applying trigonometry; Further trigonometry
N2.1 Understand equivalent fractions, simplifying a fraction by cancelling all common factors.	Simple fractions; Working with fractions; Decimals
N2.5 Understand that ‘percentage’ means ‘number of parts per 100’ and use this to compare proportions.	Percentage; Percentage changes; Proportion; Powers and proportion
N2.6 Interpret fractions, decimals, percentages as operators.	Simple fractions; Working with fractions; Decimals; Decimal calculations; Percentages; Percentage changes
N2.7 Calculate with fractions, decimals and percentages.	Simple fractions; Working with fractions; Decimals; Decimal calculations; Percentages; Percentage changes
N3.1 Use ratio notation, including reduction to its simplest form and its various links to fraction notation.	Ratio
N3.3 Solve problems involving ratio and proportion, including the unitary method of solution.	Ratio; Proportion; Powers and proportion
N3.3h Direct and indirect proportion and exponential growth.	Proportion; Powers and proportion
N4.1 Distinguish the different roles played by letter symbols in algebra, using the correct notation.	Linear equations; Functions
N4.2 Distinguish in meaning between the words ‘equation’, formula’, and ‘expression’.	Linear equations; Formulae; Manipulating formulae; Algebraic fractions

N4.2h And ‘identity’.	Linear equations; Formulae; Manipulating formulae; Algebraic fractions
N5.1 Manipulate algebraic expressions by collecting like terms, by multiplying a single term over a bracket, and by taking out common factors.	Linear equations; Factorizing; Working with brackets
N5.1h Multiply two linear expressions.	Linear equations; Solving quadratics; Working with brackets
N5.4 Set up and solve simple linear equations.	Linear equations
N5.4h Including simultaneous equations in two unknowns.	Simultaneous equations 1; Simultaneous equations 2
N5.5h Solve quadratic equations.	Solving quadratics; More quadratics; Factorizing
N5.6 Derive a formula, substitute numbers into a formula.	Formulae; Manipulating formulae
N5.8 Use systematic trial and improvement to find approximate solutions of equations where there is no simple analytical method of solving them.	Functions
N6.3 Use the conventions for coordinates in the plane and plot points in all four quadrants, including using geometric information.	Linear graphs; Graphs of non-linear functions
N6.3h 3D coordinate systems.	
N6.7h Find the intersection points of the graphs of a linear and quadratic function, knowing that these are the approximate solutions of the corresponding simultaneous equations representing the linear and quadratic functions.	Graphs of non-linear functions
N6.8h Draw, sketch, recognise graphs of simple cubic functions, the reciprocal function $y = 1/x$ with $x \neq 0$, the function $y = kx$ for integer values of x and simple positive values of k, the circular functions y = sin x and y = cos x.	Graphs of non-linear functions; Trig graphs and rules

N6.9h Transformation of functions.	Graphs of non-linear functions
N6.10h Construct the graphs of simple loci.	Loci
N6.11h Construct quadratic and other functions from real life problems and plot their corresponding graphs.	Functions; Graphs of non-linear functions
N6.12 Discuss, plot and interpret graphs (which may be non-linear) modelling real situations.	Real-life graphs
N6.13 Generate points and plot graphs of simple quadratic functions, and use these to find approximate solutions.	Graphs of non-linear functions
G1.1 Recall and use properties of angles at a point, angles at a point on a straight line (including right angles), perpendicular lines, and opposite angles at a vertex.	Lines and angles; Geometry and Measures 1
G1.2 Understand and use the angle properties of parallel and intersecting lines, triangles and quadrilaterals.	Lines and angles; Triangles and quadrilaterals; Geometry and Measures 1
G1.3 Calculate and use the sums of the interior and exterior angles of polygons.	Polygons; Geometry and Measures 1
G1.4 Recall the properties and definitions of special types of quadrilateral, including square, rectangle, parallelogram, trapezium, kite and rhombus.	Triangles and quadrilaterals
G1.5 Distinguish between centre, radius, chord, diameter, circumference, tangent, arc, sector and segment.	Circles; Circle calculations; Geometry and Measures 2
G1.5h Know and use circle theorems.	Circles; Circle calculations
G1.6 Recognise reflection and rotation symmetry of 2D shapes.	Rotation and symmetry; Geometry and Measures 3

G1.7 Describe and transform 2D shapes using single or combined rotations, reflections, translations, or enlargements by a positive scale factor and distinguish properties that are preserved under particular transformations.	Symmetry and reflection; Translation and rotation; Geometry and Measures 3
G1.7h Use positive fractional and negative scale factors.	Enlargement
G1.8 Understand congruence and similarity.	Congruence and similarity; Geometry and Measures 3
G1.8h Use similarity. Understand and use conditions for congruent triangles.	Concruence and similarity
G2.1 Use Pythagoras’ theorem.	Pythagoras' Theorem; Applying Pythagoras Theorem; Geometry and Measures 1; Geometry and Measures 2
G2.1h Extend to use in 3D.	Applying Pythagoras' Theorem
G2.2h Use the trigonometrical ratios and the sine and cosine rules to solve 2D and 3D problems.	Trigonometry; Further trigonometry; Applying trigonometry; Trig graphs and rules
G2.3 Justify simple geometrical properties.	Polygons; Triangles and quadrilaterals; 3-D shapes; Geometry and Measures 2
G2.3h Simple geometrical proofs.	Polygons; Triangles and quadrilaterals
G2.4 Use 2D representations of 3D shapes.	3-D shapes; Cubes and cuboids; Geometry and Measures 1; Geometry and Measures 2
G3.1 Use and interpret maps and scale drawings.	Construction; More measures; Geometry and Measures 4
G3.2 Understand the effect of enlargement for perimeter, area and volume of shapes and solids.	Enlargement; Geometry and Measures 4
G3.2h Use the effect of enlargement for perimeter, area and volume in calculations.	Enlargement

G3.3 Interpret scales on a range of measuring instruments and recognise the inaccuracy of measurements.	Measures
G3.4 Convert measurements from one unit to another.	Measures; Geometry and Measures 4
G3.5 Make sensible estimates of a range of measures.	Measures
G3.6 Understand and use bearings.	More measures
G3.7 Understand and use compound measures.	More measures; Geometry and Measures 4
G3.8 Measure and draw lines and angles.	Measures; Lines and angles; Geometry and Measures 1
G3.9 Draw triangles and other 2D shapes using a ruler and protractor.	Construction; Polygons; Triangles and quadrilaterals; Geometry and Measures 1
G3.10 Use straight edge and a pair of compasses to do constructions.	Construction; Geometry and Measures 1
G3.11 Construct loci.	Loci; Geometry and Measures 1
G4.1 Calculate perimeters and areas of shapes made from triangles and rectangles.	Area; Triangles and quadrilaterals; Geometry and Measures 2
G4.1h Extend to other compound shapes.	Polygons; Geometry and Measures 2; Geometry and Measures 4
G4.2h Calculate the area of a triangle using $\frac{1}{2} ab \sin C$.	Triangsls and quadrilaterals; Geometry and Measures 1
G4.3 Calculate circumferences and areas of circles.	Circles; Circle calculations; Geometry and Measures 2
G4.3h Calculate lengths of arcs and areas of sectors.	Circles; Circle calculations

G4.4 Calculate volumes of right prisms and of shapes made from cubes and cuboids.	3-D shapes; Cubes and cuboids
G4.5h Solve mensuration problems involving more complex shapes and solids.	3-D shapes; Cubes and cuboids; Polygons; Triangles and quadrilaterals; Geometry and Measures 4
G5.1 Understand and use vector notation for translations.	Vectors; Using vectors; Geometry and Measures 3
G5.1h Understand and use vector notation; calculate, and represent graphically the sum of two vectors, the difference of two vectors and a scalar multiple of a vector; calculate the resultant of two vectors; understand and use the commutative and associative properties of vector addition; solve simple geometrical problems in 2D using vector methods.	Vectors; Using vectors; Geometry and Measures 3