HUNTINGTON SCHOOL
MATHEMATICS DEPARTMENT

Mathematics: Mid Term Plan for Year 11 Foundation

Mock Set 1: w/c 16/11. This will be a set of mock papers and could include anything they have done previously.

Mock Set 2: w/c 15/2. This will be a set of mock papers and could include anything they have done previously.

Homework: Weekly homework will be set on a Wednesday, due the following Wednesday via Sparx Maths.

Past Papers: Students will be given 1 past paper a week (excluding mock weeks). These will be used in class and set as homework.

Able and interested: Extension work, and problem-solving task will be provided in lessons where needed.

Support and Extension: Some topics in the table below may not be taught at this current point. This will depend on the attainment of the individuals, and these topics will then be taught at a later date when more appropriate.

Building on: These topics will have been seen before and are needed to progress to the core topics

Core: These topics will be on the assessments

Extension: These topics show where the core topics lead. They may be covered in class if the core topics are secure.

Why this? Why Now? The national curriculum sets out the key maths skills and knowledge that all children in England should learn, and at Huntington School we make sure your child experiences this fully throughout their time with us. Our maths curriculum is planned in a sensible, step-by-step order so that each new topic builds on what pupils already know, helping them grow in confidence and understanding. The table below shows how the learning is sequenced and explains why topics are taught in this order, making it easier for you to see how your child's maths knowledge develops over time.

Half Term	1	2	3	4	5
Knowledge and skills which will be covered during this half term.	**Number:** Finding factors and using divisibility tests, finding prime numbers, Venn diagrams, simplifying fractions, ordering fractions, converting between mixed numbers and improper fractions, adding and subtracting fractions, multiplying and dividing fractions Finding the lowest common multiple, finding the	**Geometry:** Calculating with roots and powers, solving equations with two or more steps, changing the subjects of formulae, angles in triangles, angles on parallel lines, understanding sin, cos and tan, measuring and drawing bearings, finding the surface area of cubes and cuboids, prisms, pyramids and cylinders, finding the volume of cubes	**Algebra:** Reading and drawing inequalities on number lines, solving single inequalities, solving equations with the unknown on both sides, solving inequalities with the unknown on both sides. Solving double inequalities, constructing and solving inequalities **Geometry:**	**Ratio and proportion:** Substituting into formulae, solving equations, changing the subjects of formulae, reading, converting and calculating with time, converting units of length, mass and capacity, converting units of area and volume, writing and simplifying ratios, using equivalent ratios to find unknown amounts, sharing amounts in a given ratio,	**Number:** Using standard form with positive indices, using standard form with negative indices, index rules with positive and negative indices, using a calculator Multiplying and dividing numbers in standard form, adding and subtracting numbers in standard form, standard form with a calculator

	highest common factor, prime factor decomposition, finding the HCF and LCM using prime factor decomposition, ordering fractions and mixed numbers, adding and subtracting mixed numbers, multiplying and dividing with mixed numbers. **Algebra:** Index rules with positive and negative indices, simplifying expressions by collecting like terms, simplifying fractions, solving equations with one step, factorising quadratic expressions of the form x^2+bx+c, plotting straight line graphs, substituting into algebraic formulae, changing the subjects of formulae Simplifying expressions using index laws, simplifying algebraic fractions by cancelling common factors, solving equations with two or more steps, solving equations with the unknown on both sides, solving equations with the unknown in the denominator, constructing and solving equations, factorising to solve	and cuboids, prisms, pyramids and cylinders Using Pythagoras' theorem in 2D, finding unknown sides in right-angled triangles, finding unknown angles in right-angled triangles, using the exact values of trigonometric ratios, angles of elevation and depression, calculating bearings, calculating with trigonometry and bearings, Finding the surface area of cones, spheres, frustums and composite shapes, finding the volume of cones, spheres, frustums and composite shapes, combining angle facts, angles on parallel lines, using quadrilateral properties to find angles, angles in polygons **Statistics:** Angles on a line and about a point, finding fractions of amounts, bar charts, line graphs, interpreting frequency tables with grouped data Drawing pie charts, interpreting pie charts, plotting scatter graphs, interpreting scatter graphs, using lines of best fit	Understanding column vectors Adding and subtracting column vectors, multiplying column vectors by a scalar, identifying parallel vectors, solving geometric problems using vectors **Number:** Finding percentages of amounts with and without a calculator, percentage change without a calculator Percentage change with a calculator, finding original amounts in percentage calculations, finding the percentage an amount has been changed by, compound interest calculations, growth and decay	converting between ratios, fractions and percentages, using a calculator Calculating with speed, rates, density and pressure, combining ratios, calculating with ratios and algebra, changing ratios, solving direct proportion word problems, solving inverse proportion word problems, currency conversion	**Algebra:** Term-to-term rules, substituting into position-to-term rules, reading and plotting coordinates. Position-to-term rules for arithmetic and geometric sequences, position-to-term rules for sequences of patterns, special sequences, plotting straight line graphs, finding equations of straight line graphs, interpreting equations of straight line graphs, finding the equation of a straight line from its gradient and a point, finding the equation of a straight line from two points on the line, equations of parallel lines

	quadratic equations of the form x^2+bx+c=0, solving quadratic equations graphically, solving simultaneous equations using elimination, substitution and graphically, constructing and solving simultaneous equations **Geometry:** Angles on a line and about a point, vertically opposite angles, angles in triangles, angles in quadrilaterals, line and shape properties Combining angle facts, angles on parallel lines, using quadrilateral properties to find angles, angles in polygons	**Probability:** Writing probabilities as fractions, decimals and percentages, Venn diagrams, frequency trees, calculations with fractions Probabilities of mutually exclusive events, sample space diagrams, expected results from repeated experiments, Venn diagrams with set notation, using set notation, tree diagrams for independent and dependent events, experimental probabilities			
Key vocabulary	**Number -** Divisibility, factors, multiples, lowest common multiples, highest common factor, Venn diagrams, prime factors, product, index form, prime decomposition, shared, repeated, greatest, least, possible. Mixed number, proper, improper, denominator, order, ascending, descending, sum, integer, simplify, cancel, equivalent	**Geometry -** Trigonometric, sine, cosine, tangent, opposite, adjacent, hypotenuse, degrees, co-ordinates, solve, undefined, angle, side length, slant height, diagonal, Pythagoras, square, square root, cone, cuboid, square based pyramid, cylinder, dimensions, perpendicular, face, vertex, vertices, edge, area, volume, straight line, sum, corresponding, alternate, vertically opposite.	**Algebra -** Solving, substitute, simplify, satisfy, linear inequalities, function, integer, translate, reflection, inverse, intercepts, co-ordinates, axes, mapped, manipulate, **Number –** Percentage, fraction, decimal, integer, decrease, increase, discount, reduced, original, reverse, simple, interest, appreciate, depreciate	**Ratio & Proportion –** Speed, Distance, Time, Density, Mass, Volume, Pressure, Force, Area, Units, proportion, direct, inverse, rate, exchange rate, unitary, best-buy.	**Number –** Standard form, ordinary, index, base, place value, large, small, increase, decrease. **Algebra –** Term, rule, arithmetic, geometric, linear, Fibonacci, sequence, nth term, Intercept, gradient, table of values, quadrant, co-ordinate, point, axis, origin, parallel, perpendicular, satisfy, equation

	Algebra – Index laws, indices, simplify, expressions, numeric factor, variable, numerator, denominator, brackets, solve, solution, equation, construct, perimeter, area, context, angles, function machines, variable, value, total, sum, difference, quadratic, factorise, rearrange, substitute, integer, graph, roots, intersect, estimate, related equation, simultaneous, elimination, substitution, lowest common multiple, coefficient **Geometry –** Angles, straight lines, degrees, acute, obtuse, reflex, right angle,	**Statistics –** Sector, angle, frequency, width, class interval, inequalities, interpret, correlation, trend, line of best fit **Probability -** Mutually exclusive, independent, conditional, dependent, events, given, two-way table, notation, Venn diagram, complement, union, intersection, frequency tree, outcomes, combination, permutations, order, list, systematic			