


KS4 Mathematics Curriculum Coverage: 2025-26

Year 10H Autumn Term 						
Sequenced	Algebraic Manipulation	Equations, inequalities and formulae	Quadratic expressions and equations	Percentages	Ratio and scale	Work with fractions
Key Knowledge	<p>To know:</p> <ul style="list-style-type: none">what is a like and unlike term.the difference between an expression and equation.the symbols for identities and inequalities.the difference between equality and equivalence.the meaning of equivalent fractions.inverse operations.Know how to represent types of numbers algebraically.the difference between an equation and an equality.the definition of an integerhow to use indiceshow to expand a brackethow to factorise into a single bracket	<p>To know:</p> <ul style="list-style-type: none">how to find the solution to an equationinverse operationsthe difference between a solution and a solution setthe meaning of a solutionthe difference between an equation, an inequality and a formulathat inequalities can be represented on number linesthe difference between an equation and an expressionhow to identify the subject of a formulathat the inverse operations are used to solve equations and to change the subject of a formula	<p>To know:</p> <ul style="list-style-type: none">how to find the factors of a number and recognise factor pairshow to simplify simple algebraic expressions and write them using the correct notationhow to calculate with negative numbersthe square numbers and how they are formedthat if the product of two numbers is zero then at least one of the numbers must be zerothat equations can have more than one solutionthat solutions can be checked by substitutionthat equation can be represented graphicallyhow to plot coordinates	<p>To know:</p> <ul style="list-style-type: none">equivalent values with fractions, decimals and percentageswhat a multiplier isthe terms simple and compound interest	<p>To know:</p> <ul style="list-style-type: none">that a multiplicative relationship between two quantities can be expressed as a ratio or a fractionthat ratios compare one part to another part and fractions compare one part to a wholethe graphical representation of direct proportionknow that when expressing in the form of 1 : n or n : 1 non-integer values may be involvedthat bar models or other diagrams can be used to represent ratioswhat the lowest common multiple of two numbers ismap scales and and scale models can be represented by ratios	<p>To know:</p> <ul style="list-style-type: none">the meaning of the reciprocalhow to find equivalent fractionsthat fractions can be simplifiedthat fractions can be represented by diagramswhat the lowest common multiple of two numbers recognise the term unit fractionmixed numbers and be converted to improper fractions and vice versamanipulate and simplify algebraic expressionsfactorise algebraic expressions
Key Skills	<p>To be able to:</p> <ul style="list-style-type: none">simplify expressionsuse identitiesadd and subtract simple algebraic fractionsmultiply and divides simple algebraic fractionssolve equations and inequalities with fractionssubstitute numbers into algebraic expressions and formulaeapply the addition and subtraction laws of indicesexpand a single bracketfactorise into a single bracket	<p>To be able to:</p> <ul style="list-style-type: none">form and solve 1 step and 2 step equations and inequalitiessolve fractional equationsrepresent inequalities using the appropriate symbols and represent them on number linesrepresent solutions to inequalities on a number linerepresent solutions to inequalities using set notationform and solve equations and inequalities with unknowns on both sideschange the subject of a simple or a known formulachange the subject of a complex formulachange the subject of a formula when the subject appears more than once	<p>To be able to:</p> <ul style="list-style-type: none">expand double brackets to form a quadratic expressionexpand triple bracketsfactorise quadratic expressions into two bracketsfactorise a quadratic expression using the difference of two squaressolve quadratic equations equal to 0solve quadratic equations by factorisingcheck their solutions by substituting into the original equationcomplete a table of valuesplot a quadratic graph and join the points with a smooth curvecomplete the squaresolve quadratic equations by completing the squaresolve quadratic equations using the quadratic formula	<p>To be able to:</p> <ul style="list-style-type: none">convert fractions, decimals and percentageswork out percentage of an amount (with and without a calculator)Increase and decrease by a given percentagecalculate an amount after repeated percentage changeexpress one number as a fraction or percentage of anotherexpress a change as a percentagecalculate simple and compound interestfind the original value after percentage changechoose the appropriate method to solve a problem involving percentages	<p>To be able to:</p> <ul style="list-style-type: none">simplify ratios and recognise equivalent ratiosshare an amount in a given ratio using multipliers or bar modelsshare in a ratio when one part or the difference is givenlink ratios and fractions and express a ratio as a fraction and vice versacombine ratiosshare in a given ratio algebraicallyuse ratios to solve problems involving scales (map scales, scale models)solve problems with ratio and algebra	<p>To be able to:</p> <ul style="list-style-type: none">add and subtract fractions and mixed numbersmultiply fractions and multiply a fraction by an integerdivide fractions using reciprocalsadd, subtract, multiply and divide algebraic fractions including more complex fractionsapply their knowledge to solve problems involving fractions in a variety of contextssimplify algebraic fractionssolve equations with algebraic fractions
Subject specific vocabulary	expression, variable, formula, substitute, like terms, unlike terms, coefficient, simplify, power, base, index, indices, expand, factorise, highest common factor	equation, inverse, expression, unknown, solution, coefficient, integer, inequality, satisfy, compound inequality, solve, formula, subject, rearrange, variable	quadratic, expand, term, sum, product, factorise, variable, expression, solve, solution, product, roots, parabola, table of values	percentage, decimal, multiplier, whole, increase, decrease, repeated percentage change, depreciate, index, express, fraction, equivalent fraction, percentage change, profit, loss, original, change, simple interest, compound interest, investment, per annum, interest rate, commutative	ratio, simplest form, convert, unit, equivalent, share, part, whole, proportion, compare, gradient, equation, origin, variable, enlarge, scale, scale factor, multiplier	numerator, denominator, product, sum, commutative, simplify, equivalent, improper fraction, mixed number, reciprocal, lowest common multiple