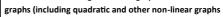
Stage 6	Stage 7	Stage 8/Foundation	Stage 9/FH	Stage 10/Higher
	understand and use the concepts and vocabulary of expressions, equations, formulae and terms	understand and use the concepts and vocabulary of factors	understand and use the concepts and vocabulary of inequalities and identities	simplify and manipulate algebraic expressions (including those involving surds) by expanding products of two binomials and factorising quadratic expressions of the form $x^2 + bx + c$, including the difference of two squares
	use and interpret algebraic notation, including: ab in place of a \times b, 3y in place of y + y + y and 3 \times y, a ² in place of a \times a, a ³ in place of a \times a, a, a/b in place of a \div b, brackets	use and interpret algebraic notation, including: a^2b in place of a × a × b, coefficients written as fractions rather than as decimals	simplify and manipulate algebraic expressions by <u>expanding</u> products of two binomials and factorising quadratic expres- sions of the form $x^2 + bx + c$	simplify and manipulate alge- braic expressions involving algebraic fractions browner binomials simplify and manipulate algebraic expressions (including those involving surds and algebraic fractions) by expanding products of two or more binomials
	simplify and manipulate algebraic expressions by col- lecting like terms and multiplying a single term over a bracket	simplify and manipulate algebraic expressions by taking out common factors and simplifying expressions involving sums, products and powers, including the laws of indices	argue mathematically to show algebraic expressions are equivalent, and use algebra to support and construct argu- ments	manipulate algebraic expres- sions by expanding products of <u>more than two binomials</u> manipulate algebraic expres- sions by factorising quadratic expressions of the form ax ² + bx + c
express missing number problems algebraically	solve linear equations in one unknown algebraically	solve linear equations with the unknown on both sides of the equation	solve, in simple cases, two linear represent the solution set to an simultaneous equations in two inequality on a number line variables algebraically find construction set to an solution set to an	solve, in simple cases, twosolve two simultaneous equationslinear simultaneous equationsin two variables algebraicallyin two variables algebraicallyquadratic algebraically
find pairs of numbers that satisfy an equa- tion with two unknowns	use the symbols =, \neq , <, >, \leq , \geq	find approximate solutions to linear equations	solve quadratic equations algebrai- cally by factorising find approximate solutions to simultaneous equations using a graph find approximate solutions to quadratic equations using a graph solve linear inequalities in one variable	find approximate solutions solve quadratic equations to equations numerically (including those that require using iteration rearrangement) algebraically by factorising factorising
enumerate possibilities of combinations of two variables		using a graph	derive an equation (or two simultaneous equations), solve the equation (s) and interpret the solution	solve linear inequalities in two variables represent the solution set to an inequality using set notation and on a graph
use simple formulae	substitute numerical values into formulae and expressions	substitute numerical values into scientific formulae	translate simple situations or procedures into algebraic expressions or formulae	
recognise when it is possible to use formula for area and volume of shapes	understand and use standard mathematical formulae	rearrange formulae to change the subject		
generate and describe linear number sequences	term rule		recognise and use Fibonacci type sequences, quadratic sequences	deduce expressions to calculate the nth term of quadratic sequences
	recognise and use sequences of triangular, square and cube numbers, simple arithmetic progressions			recognise and use simple geometric progressions (r^n where n is an integer, and r is a rational number > 0)
describe positions on the full coordinate grid (all four quadrants)	work with coordinates in all four quadrants	plot graphs of equations that correspond to straight-line graphs in the coordinate plane identify and interpret gradients and inter- cepts of linear func- tions graphically	use the form y = mx + c to identify parallel lines find the equation of the line through two given points, or through one point with a given gradient identify and interpret gradients and interpret gradients of linear functions algebraically recognise, sketch and interpret graphs of quadratic functions	use the form y = mx + c to identify and interpret roots, identify perpendicular lines intercepts, turning points of quadratic functions graphically deduce roots of quadratic functions algebraically interpret the reverse process as the 'inverse function' interpret function'
	understand and use lines parallel to the axes, y=x and y=-x	recognise, sketch and inter- pret graphs of linear func- tions and simple quadratic functions recognise, sketch and interpret graphs and graphs of non-standard (piece- wise linear) functions in real contexts, to find approximate solutions to problems such as	recognie, sketch and interpret graphs of simple oubic functions and the reciprocal function $y = 1/x$ interpret the gradient of a straight line graph as a rate of change: plot and interpret graphs (including reciprocal graphs) and graphs of non -standard functions in real contexts, to find approximate solutions to problems such as simple kinematic problems involving distance, speed	plot and interpret graphs to find approximate solutions to problems such as simple kinematic problems interpret the gradient at a point on a curve as the instantaneous rate of change recognise and use the equation of a circle with centre at the origin find the equation of circle at a given point
		simple kinematic problems involv- ing distance and speed.	and acceleration	calculate or estimate gradients of graphs and areas under



Algebra

.0/Higher

Stage 11/Higher+

Manipulating expressions

solve quadratic equations by completing the square and by using the quadratic formula

solve quadratic inequalities in one variable

Solving equations

Formulae

recognise and use simple geometric progressions (r^n where n is an integer, and r is a rational number > 0 or a surd) and other se-<u>quences</u>

Sequences

solve, in simple cases, two linear simultaneous equations in two variables algebraically	represent the solution set to an inequality on a number line
solve quadratic equations algebraically by factorising	find approximate solutions to simultaneous equations using a graph
find approximate solutions to quadratic equations using a graph	solve linear inequalities in one variable

derive an equation (or two simultaneous equations), solve the equation(s) and interpret the solution

calculate or estimate gradients of graphs and areas under

Representing graphically