

Year 9	Working Towards	Evidence	Meeting	Evidence	Exceeding	Evidence
Manipulation	Use and interpret algebraic notation inc indices and fractional coefficients Substitute numerical values into scientific formulae Simplify and manipulate algebraic expressions by taking out common factors Simplify expressions involving sums, products and powers, including laws of Indices. Rearrange formulae to change the subject		Understand and use the concepts and vocabulary of factors and Identities Simplify and manipulate algebraic expressions by expanding products of 2 binomials and factorising quadratic expressions in the form x^2+bx+c Know difference between equation and identity		Simplify and manipulate algebraic expressions (including those involving Surds) by expanding products of 2 binomials and factorising quadratic expressions in the form x^2+bx+c and the difference of 2 squares Interpret the reverse process as the 'inverse function'	
Graphs	Plot straight line graphs Identify and interpret gradients and intercepts of linear functions graphically Recognise, sketch and interpret linear graphs and simple quadratic graphs Plot and interpret real life graphs (speed/distance)		Use $y=mx+c$ to identify parallel lines Find equation of the line through 2 given points or a point and the gradient. Identify and interpret gradients and intercepts Recognise and sketch quadratic, simple cubic and reciprocal graphs Plot and interpret graphs in a real context		Use $y=mx+c$ to identify perpendicular lines Identify and interpret roots, intercepts, turning points of quad functions graphically Deduce roots of quad functions algebraically Plot and interpret graphs (inc Exponential grphs) in a real context Recognise and use the equation of a circle (centre at origin) Find equation of tangent at given point	
Equations	Solve linear equations with unknowns on both sides Find approximate solutions to linear equations using a graph		Solve simple simultaneous equations algebraically (estimations from graphs) Solve Quadratic equations by factorising and approximations from graphs Derive equations Solve linear inequalities and represent on number line		Solve simultaneous equations including quadratics Rearrange quadratic equation and solve by factorising Solve linear inequalities with 2 variables Represent solutions using set notation and on a graph	
Sequences	Generate terms of a sequence from term-to-term or position-to-term rule Deduce expressions to calculate the nth term		Recognise and use Fibonacci type and quadratic sequences		Deduce expressions to calculate the nth term of quadratic sequence Recognise and use simple geometric progressions	
Communication	Understand and use the concepts and vocabulary involving factor. Describe key features of real life graphs. Use the nth term to describe a sequence.		Argue mathematically to show algebraic expressions are equivalent Use algebra a to support and construct arguments (derive equations)		Begin to use proof algebraically to support and construct arguments	
Year 8						
Manipulation	Use and interpret algebraic notation Substitute numerical values into formulae and expressions Simplify and manipulate algebraic expressions by collecting like terms and multiplying a single term over a bracket Understand and use simple mathematical formulae		Use and interpret algebraic notation inc indices and fractional coefficients Substitute numerical values into scientific formulae Simplify and manipulate algebraic expressions by taking out common factors Simplify expressions involving sums, products and powers, including laws of Indices. Rearrange formulae to change the subject		Understand and use the concepts and vocabulary of factors and Identities Simplify and manipulate algebraic expressions by expanding products of 2 binomials and factorising quadratic expressions in the form x^2+bx+c Know difference between equation and identity	
Graphs	Work with coordinates in all 4 quadrants Understand and use lines parallel to axes, $y=x$ and $y=-x$		Plot straight line graphs Identify and interpret gradients and intercepts of linear functions graphically Recognise, sketch and interpret linear graphs and simple quadratic graphs Plot and interpret real life graphs (speed/distance)		Use $y=mx+c$ to identify parallel lines Find equation of the line through 2 given points or a point and the gradient. Identify and interpret gradients and intercepts Recognise and sketch quadratic, simple cubic and reciprocal graphs. Plot and interpret graphs in a real context	

Equations	Solve linear equations with one unknown algebraically		Solve linear equations with unknowns on both sides Find approximate solutions to linear equations using a graph		Solve simultaneous equations algebraically (estimations from graphs) Solve Quadratic equations by factorising and approximations from graphs Derive equations Solve linear inequalities and represent on number line	
Sequences	Generate terms of sequence from a term-to-term rule Recognise and use sequences of triangular, square and cube numbers, and simple arithmetic progressions		Generate terms of a sequence from term-to-term or position-to-term rule Deduce expressions to calculate the nth term		Recognise and use Fibonacci type and quadratic sequences	
Communication	Understand and use the concepts and vocabulary (expression, equation, formulae and terms)		Understand and use the concepts and vocabulary involving factors. Describe key features of real life graphs. Use the nth term to describe a sequence.		Argue mathematically to show algebraic expressions are equivalent Use algebra to support and construct arguments (derive equations)	
Year 7						
Manipulation	Recognise the use of algebraic notation		Use and interpret algebraic notation Understand and use simple mathematical formulae		Use and interpret algebraic notation inc indices and fractional coefficients Substitute numerical values into scientific formulae Simplify and manipulate algebraic expressions by taking out common factors Simplify expressions involving sums, products and powers, including laws of Indices. Rearrange formulae to change the subject	
Graphs	Describe positions on the full coordinate grid (all quadrants)		Work with coordinates in all 4 quadrants Understand and use lines parallel to axes, $y=x$ and $y=-x$		Plot straight line graphs Identify and interpret gradients and intercepts of linear functions graphically Recognise, sketch and interpret linear graphs and simple quadratic graphs Plot and interpret real life graphs (speed/distance)	
Equations	Express missing number problems algebraically Find pairs of numbers that satisfy a formula with 2 unknowns.		Solve linear equations with one unknown algebraically		Solve linear equations with unknowns on both sides Find approximate solutions to linear equations using a graph	
Sequences	Generate and describe linear number sequences		Generate terms of a sequence from a term-to-term rule		Generate terms of a sequence from term-to-term or position-to-term rule Deduce expressions to calculate the nth term	
Communication	Solve number and practical problems using above skills		Understand and use the concepts and vocabulary (expression, equation, formulae and terms)		Understand and use the concepts and vocabulary involving factors. Describe key features of real life graphs. Use the nth term to describe a sequence.	