



Mathematics – Y9 Assessment Descriptors

	Foundation	Developing	Securing	Exceeding	Excelling
Year 9 Autumn term 1	<p>Confidently and independently be able to...</p> <ul style="list-style-type: none"> Classify polygons. Recognise parallel and perpendicular lines. Recognise, extend and describe sequences. Order negative numbers, identify multiples of 2, 3, 4, 5 and 10. Identify multiples, factors, primes and square numbers. 	<p>Confidently and independently be able to...</p> <ul style="list-style-type: none"> Know and apply basic angle rules. Understand and use properties of triangles and quadrilaterals to calculate angles. Generate sequences from geometrical patterns. Given the general rule of a linear sequence, generate terms. Identify square roots and cube numbers. Find the HCF and LCM using listing method. 	<p>Confidently and independently be able to...</p> <ul style="list-style-type: none"> Identify and use alternate and corresponding angles. Find, calculate and use the exterior angles of regular polygons. Find the formula for sequences generated from simple geometrical patterns. Find general rules for ascending linear sequences. Find the prime factor decomposition of a number and write using indices. 	<p>Confidently and independently be able to...</p> <ul style="list-style-type: none"> Find, calculate and use the interior and exterior angles of regular polygons. Find general rules for descending linear sequences. Given an nth term rule, generate terms in quadratic sequences. Write integers in index form. Use prime factor decomposition to find HCF and LCM. 	<p>Confidently and independently be able to...</p> <ul style="list-style-type: none"> Solve problems (and give mathematical reasons) using properties of angles. Use Pythagoras' theorem in 2D. Use Pythagoras in 3D. Apply basic circle theorem laws. Find nth term of any quadratic sequences and for complex fractional sequences. Use Venn diagrams to find HCF and LCM of larger numbers. Use index notation with fractional and negative powers.

Year 9 Autumn term 2

	Foundation	Developing	Securing	Exceeding	Excelling
	<p>Confidently and independently be able to....</p> <ul style="list-style-type: none"> Gather like terms in expressions with a single variable. Use formulae given in words. Expand single brackets - multiplied by a positive constant. Read, write and order whole numbers. Understand the symbols $<$ and $>$. Use written methods to add and subtract 3 digit numbers. Multiply and divide by 10, 100, 1000. Use all four operations to solve simple word problems. Represent data in a frequency table using tally marks, draw and interpret simple bar charts and pictograms. Calculate the median, mode and range of a set of data. Extract relevant data from bar charts, frequency tables and pictograms. 	<p>Confidently and independently be able to...</p> <ul style="list-style-type: none"> Gather like terms with 2 or more variables. Write simple expressions from information given in words. Substitute integers into expressions. Use the order of operations, including brackets. Use efficient written methods to add and subtract whole numbers and decimals with up to two places. Round to one significant figure. Multiply by 0.1, 0.01 or 0.001. Multiply and divide by multiples of 10, 100 and 1000. Calculate the mean for a set of data. Choose appropriate averages to use for different data sets. Find averages and extract other relevant information from a variety of different graphs and charts. Calculate averages and range and use them to compare data. 	<p>Confidently and independently be able to...</p> <ul style="list-style-type: none"> Expand brackets with multipliers which are variables. Substitute numbers into expressions and formula. Use index notation and index laws. Use the order of operations, including brackets and simple powers, with more complex calculations. Multiply and divide by 0.1, 0.01 or 0.001. Estimate calculations using figures rounded to one significant figure. Round to 2 or more significant figures and 1 or 2 decimal places. Multiply and divide three-digit by two-digit whole numbers; extend to multiplying decimals with one or two places by single-digit whole numbers. Construct box and whisker plots. Construct & interpret pie charts. Draw accurate and appropriate scatter diagrams, making sensible decision about scales. Find the mean and median of discrete data given in a table. Understand correlation and be able to predict whether variables correlate 	<p>Confidently and independently be able to...</p> <ul style="list-style-type: none"> Factorise expressions with single brackets. Simplify complex expressions with more than one bracket and negative terms & multipliers. Expand and simplify double brackets of any complexity. Add simple algebraic fractions. Use efficient written methods to multiply by decimals; divide by decimals by transforming to division by an integer. Understand that numbers which have been rounded could originally have had a range of values (bounds). Write large numbers using standard index form. Estimate the mean from grouped data and identify where the median will lie. Use box and whisker plots to compare 2 sets of data. Use lines of best fit to interpolate data from scatter diagrams. Anchor lines of best fit using the mean point from both variables on a scatter diagram. 	<p>Confidently and independently be able to...</p> <ul style="list-style-type: none"> Factorise quadratic expressions. Know and use all index laws. Simplify simple algebraic fractions to produce linear expressions; use factorisation to simplify compound algebraic fractions. Convert between ordinary and standard index form numbers. Recognise standard index form on a calculator display. Calculate efficiently using numbers in standard index form. Plot data on a cumulative frequency graph and estimate the median. Interpret cumulative frequency graphs. Understand the problems of extrapolating data using a line of best fit & know the limitations of interpolating.