Mathematics – Y9 Assessment Descriptors

	Foundation	Developing	Securing	Exceeding	Excelling
Year 9 Summer term 1	Confidently and independently be able to… • Write simple ratios. Simplify ratios. Solve simple proportion problems using recipes. • Identify and plot co-ordinates in all four quadrants. • Use language associated with probability. Write simple probabilities as fractions. Order probabilities on a probability scale.	Confidently and independently be able to… • Divide amounts into a given ratio. Understand the relationship between ratios, fractions and proportion. Simplify ratios, including those expressed in different units. • Plot the graphs of simple linear functions, in the form y=mx+c, in the 1st quadrant. Identify the equations of horizontal and vertical lines. Draw the lines given the equations. • List outcomes systematically. Find the probability of outcomes from a single event. Find theoretical probabilities.	Confidently and independently be able to… • Use the unitary method to solve simple problems involving ratio and direct proportion. Calculate original amounts when given one part using ratios. Use proportional reasoning to solve problems. Compare 2 ratios. • Generate points and plot graphs of linear functions, where y is given implicitly in terms of x. Understand and find what m and c represent in the equation of a straight line graph. • Know that probabilities (mutually excl & exhaust) sum to 1. Create & use sample space diagrams. Use theoretical or experimental probability to predict.	Confidently and independently be able to… • Interpret and use ratios in a range of contexts. Use efficient methods (multipliers) to solve proportion problems. Calculate percentage increases and decreases. • Simplify or rearrange linear expressions in order to identify m and c from an implicit equation. Plot quadratic graphs. • Use tree diagrams to find the probability of an outcome form 2 or more events. Combine probabilities of outcomes from tree diagrams to solve problems.	Confidently and independently be able to… • Solve problems involving percentage changes using multiplicative methods. Use fractions or percentages to solve problems involving repeated proportional changes. Calculate unknown quantities using direct proportion. • Find the equation of a line given 2 points or a point and a parallel line. Identify the equations of straight-line graphs that are parallel and perpendicular to a given line. Plot graphs of more complex quadratic and cubic functions. • Use experimental probabilities to estimate frequencies. Use tree diagrams to find outcomes of compound events both with and without replacement. Recognise independent events.

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Year 9 Summer term 2	Confidently and independently be able to… • Read values from linear conversion graphs, answering questions in context. Convert between metric units of length, mass and capacity. Choose and use units of measure to estimate. Read and interpret scales on a range of measuring instruments. • Construct shapes using a pair of compasses. Measure and draw angles and lines accurately. • Name 2d and 3d shapes. Use isometric paper to draw cuboids.	Confidently and independently be able to… • Calculate and solve problems in everyday contexts involving volume, capacity, mass, angle and bearings. Discuss and interpret graphs arising from real situations, e.g. distance–time graphs. • Construct ASA, SAS and SSS triangles using a protractor, ruler and a pair of compasses. • Draw nets of cubes. Draw 2d views of 3d representations.	Confidently and independently be able to… • Understand and use measures of speed. Construct functions arising from real-life problems and plot their corresponding graphs. • Solve simple loci problems. Construct an angle bisector and the bisector of a line. Use loci to solve more complex multistep problems. Use and interpret maps and scale drawings in the context of mathematics and other subjects. • Draw nets of cuboids.	Confidently and independently be able to… • Use compound measures to compare in real-life contexts. (e.g. travel graphs and value for money). Interpret and explore combining measures into rates of change in everyday contexts. (e.g. km per hour, pence per metre). • Find the perpendicular from a point to a line and from a line on a point. Use straight edge and compasses to construct a triangle, given right angle, hypotenuse and side.	Confidently and independently be able to… • Solve problems involving constant or average rates of change. Apply knowledge that measurements given to the nearest whole unit may be inaccurate by up to one half of the unit in either direction. Use bounds to understand how errors can be compounded in calculations. • Use loci to solve more complex multistep problems. Construct complex shapes using a pair of compasses.