29/31 – 35 To achieve **Stage 8** you need to be able to do these APP statements R - Need more practise A - Getting better G - Achieved

	Stage 8	How am I doing?					
		Au 1	Au 2	Sp 1	Sp 2	Su 1	Su 2
Numbers & the Number system	Use the concepts and vocabulary of prime numbers, highest common factor, lowest common multiple, prime factorisation, u=including using product notation and the unique factorisation theorem						
	Round numbers and measures to an appropriate degree of accuracy (e.g. to a specified number of decimal places or significant figures)						
	Interpret standard form A x 10n, where $1 \leq A < 10$ and n is an integer						
Algebraic proficiency:	Plot graphs of equations that correspond of equations that correspond to straight-line graphs in the coordinate plane						
	Identify and interpret gradients and intercepts of linear functions graphically and algebraically						
	Recognise, sketch and interpret graphs of linear functions and simple quadratic functions plot and interpret graphs of non-standard (piece-wise linear) functions in real contexts, to find approximate solutions to problems such as simple kinematic problems involving distance and speeds						
Algebraic proficiency: tinkering	Use and interpret algebraic notation including a2b in place of a x a x b, coefficients written as fractions rather than as decimals						
	Understand and use the concepts and vocabulary of factors						
	Simplify and manipulate algebraic expressions by taking out common factors and simplifying expressions involving sums, products and powers, including the laws of indices						
	Substitute numerical values into scientific formulae						
	Rearrange formulae to change the subject						
V & C	Measure line segments and angles in geometric figures, including interpreting maps and scale drawings and use of bearings						
	Identify, describe and construct similar shapes, including on coordinate axes, by considering enlargement						
	Interpret plans and elevations of 3D shapes						
	Use scale factors, scale diagrams and maps						
MD	Interpret, analyse and compare the distributions of data sets from univariate empirical distributions through appropriate measures of central tendency (median, mean, mode and class) and spread (range, including consideration of outliers)						
	Apply statistics to describe a population						
Presentation of data	Interpret, analyse and compare the distributions of data sets from univariate empirical distributions through appropriate graphical representation involving discrete, continuous and grouped data						
	Use and interpret scatter graphs of bivariate data						
	Recognise correlation						
PS	Generate terms of a sequence from either a term-to-term or a position-to-term rule						
	Deduce expressions to calculate the nth term of linear sequences						
SE & I	Solve linear equations with the unknown on both sides of the equation						
	Find approximate solutions to linear equations using a graph						
Understanding Risk 1	Relate relative expected frequencies to theoretical probability, using appropriate language and the 0 – 1 probability scale						
	Record, describe and analyse the frequency of outcomes and probability experiments using tables						
	Construct theoretical possibility spaces for single experiments with equally likely outcomes and use these to calculate theoretical probabilities						
	Apply the property that the probabilities of an exhaustive set of outcomes sum to one; apply the property that the probabilities of an exhaustive set of mutually exclusive events sum to one						
Understanding Risk 2	Apply systematic listing strategies						
	Record, describe and analyse the frequency of outcomes of probability experiments using frequency trees						
	Enumerate sets and combinations of sets systematically using tables, grids and Venn diagrams						
	Construct theoretical possibility spaces for combined experiments with equally likely outcomes and use these to calculate theoretical probabilities						
	Apply ideas of randomness, fairness and equally likely events to calculate expected outcomes of multiple future experiments						
Exploring & Calculating F, D	Work interchangeably with terminating decimals and their corresponding fractions (such as 3.5 and 7/2 or 0.375 or 3/8)						
	Interpret fractions and percentages as operators						
	Work with percentages greater than 100%						
	Solve problems involving percentage change, including original value problems, and simple interest including in financial mathematics						
	Calculate exactly with fractions						
Proportional Reasoning	Express the division of a quantity into two parts as a ratio; apply ratio to real contexts and problems (such as those involving conversion, comparison, scaling, mixing, concentrations)						
	Identify and work with fractions in ratio problems						
	Understand and use proportion as equality of ratios						
	Express a multiplicative relationship between two quantities as a ratio or a fraction						
	Use compound units (such as speed, rates of pay, unit pricing)						
	Change freely between compound units (e.g. speed, rates of pay, prices) in numerical contexts relate ratios to fractions and to linear functions						
Calculating shape	Compare lengths, areas and volumes using ratio notation						
	Calculate perimeters of 2D shapes, including circles						
	Identify and apply circle definitions and properties, including: centre, radius, chord, diameter, circumference						
	Know the formula: circumference of a circle = $2\pi r = \pi d$, area of a circle = πr^2						
	Calculate areas of a circle and composite shapes						
	Know and apply formula to calculate volume of right prisms (including cylinders)						
IA	Understand and use alternate and corresponding angles on parallel lines						
	Derive and use sum of angles in a triangle (e.g. to deduce and use the angle sum in any polygon, and to derive properties of regular polygons)						

My sublevel: Autumn > _____ Spring > _____ Summer > _____