SELF-ASSESSMENT						
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	Grade A* Mathematics looks like		2	3	4
Number	Manipulate surds in the form a + b $\sqrt{3}$	_			
	Understand and use rational and irrational numbers	_			
	Find the upper and lower bounds of more difficult calculations				
	Manipulate simple surds				
	Determine the bounds of intervals	_			
	Understand and use direct and inverse proportion				
Algebra		_			
	Ose completing the square to simplify or solve quadratic equations, and to find maximum and minimum values				
	Solve harder quadratic equations ( $a\neq 1$ ) by factorisation or using the quadratic formula				
	Solve a pair of simultaneous equations where one is linear and one is non-linear (including of the form $x^2 + y^2 = r^2$ )	-			
	fransform the graphs of $y = f(x)$ , such as linear, quadratic, cubic, sine and cosine functions, using the transformations $y = f(x) + a$ , $y = f(x + a)$ , $y = f(ax)$ and $y = af(x)$				
	Derive and use more complex formulae and change the subject of a formula, including cases where the subject occurs twice				
		_			
Shape and Space	Draw, sketch and describe the graphs of trigonometric functions for angles of any size, including transformations involving scalings in either or both of the x and y directions				
	Solve problems involving the volume of the frustum of a truncated cone				
	Solve simple geometrical problems in 2-D using vectors, including use of the commutative and associative properties of vector addition				
	Solve problems involving surface areas and volumes of cylinders, pyramids, cones and spheres				
	Understand and use the formulae for the length of a circular arc and area and perimeter of a sector				
	Understand and use SSS, SAS, ASA and RHS conditions to prove the congruence of triangles using formal arguments, and to verify standard ruler and compass constructions				
	Understand and use Pythagoras' theorem to solve 3-D problems				
Handling		-			
	Draw tree diagrams and use them to find probabilities of successive dependent events				
	Derive harder algebraic proofs using reasoning and logic				
	Select and justify a sampling scheme and a method to investigate a population				
ata	Use, interpret and compare histograms, including those with unequal class intervals				

Recognise when and how to work with probabilities associated with independent and mutually exclusive events