Y11 Higher SOW

Y11 Higher - HT1					
Chapter	**Learning objective**	**Grades**	**R**	**A**	**G**
Solving quadratic equations using completing the square / Quadratic formula	Solve a quadratic equation by using the quadratic formula.	7			
	Solve a quadratic equation by completing the square.	8-9			
	Identify the significant points of a quadratic function graphically.	7			
	Identify the roots of a quadratic function by solving a quadratic equation.	7			
	Identify the turning point of a quadratic function by using symmetry or completing the square.	8-9			
	Simplify algebraic fractions	7			
	Solve equations containing algebraic fractions.	8-9			
Functions	Find the output of a function.	8-9			
	Find the inverse function.	8-9			
	Find the composite of two functions.	8-9			
	Solve equations involving composite/ inverse functions	8-9			
Quadratic inequalities	Solve quadratic inequalities.	8-9			
Simultaneous equations	Solve two linear equations simultaneously using the elimination method (Revision)	5			
	Solve two linear equations simultaneously using the substitution method method (Harder ones)	6			
	Solve a pair of simultaneous equations where one is linear and one is non-linear, graphically and algebraically	8-9			
Iteration	Find an approximate solution for an equation using the process of iteration(calculator must be used).	8-9			

Y11 Higher - HT2					
Chapter	**Learning objective**	**Grades**	**R**	**A**	**G**
Proofs	Prove a result using algebra.	8-9			
Cumulative frequency and box plots	Draw and interpret frequency polygons.	5			
	Draw and interpret cumulative frequency graphs.	6			
	Draw and interpret box plots.	6			
Vector geometry	Calculate the resultant of two vectors	5			
	Use the resultant of two vectors to solve vector problems.	8			
	To use vectors to prove two lines are parallel	7-8			
	To use vectors to prove three points are on the same line (co-linear)	7-8			
Circle theorems	Solve problems involving chords and radii.	7			
	Give reasons for angle and length calculations involving tangents.	7			
	Understand and use facts about angles subtended at the centre and the circumference of circles.	7			
	Understand and use facts about the angle in a semicircle being a right angle.	7			
	Understandnd use facts about angles subtended at the circumference of a circle.	7			
	Understand and use facts about cyclic quadrilaterals.	7			
	Understand and use alternate segment theorem.	7			
	Prove circle theorems	8-9			

Y11 Higher - HT3					
Chapter	**Learning objective**	**Grades**	**R**	**A**	**G**
Trigonometry in non- right angled triangles	Use trigonometric ratios and Pythagoras' theorem to solve more complex three-dimensional problems.	8-9			
	Use the sine rule and the cosine rule to find sides and angles in any triangle.	7			
	Work out the area of a triangle if you know two sides and the included angle.	7			
Trigonometric functions	know the exact values of sin θ and cos θ for θ = 0°, 30°, 45°, 60° and 90°; know the exact value of tan θ for θ = 0°, 30°, 45° and 60°	5			
	Know the graph of the sine / cosine / tangent functions	7			
	Use the graphs of the sine / cosine / tangent function to solve equations	8-9			
Transformations	Recap translations, reflections and rotations	3			
	Enlarge a 2D shape by a positive scale factor	5			
	Enlarge a 2D shape by a negative/fractional scale factor	6			
	Combine/describe transformations.	6			
Transformation of functions	Understand the relationship between translating a graph and the change in its function notation.	7			
	Understand the effect stretching a curve parallel to one of the axes has on its function form.	7			
	Understand the effect reflecting a curve in one of the axes has on its function form.	7			