

TNHA Scheme of Work



Year Group- 11	Developed by: SCA / RCU	Number of lessons:
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Block	Topic	Lesson Objectives <i>What most students should be able to do....</i>	Suggested timing (hours)	Assessment opportunities
1	Gradients and Lines	<ul style="list-style-type: none"> To plot lines parallel to the axis To plot straight line graphs To interpret lines given in the form $y = mx + c$ To find the equation of a straight line To find the equation of a straight-line graph given one point and a coordinate To find the equation of a straight-line graph given two coordinates To determine whether a point is on a line To solve linear simultaneous equations graphically To find the equation of perpendicular lines 		
2	Non-linear graphs	<ul style="list-style-type: none"> To plot and read from quadratic graphs To plot and read from cubic graphs To plot and read from reciprocal graphs To recognise the shapes of a graph 		

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		<ul style="list-style-type: none"> To identify and interpret roots and intercepts of a quadratic To understand and use exponential graphs To find and use the equation of the centre of a circle To find the equation of the tangent to any curve 		
3	Using graphs	<ul style="list-style-type: none"> To reflect shapes in a given line To construct and interpret conversion graphs To construct and interpret real-life straight-line graphs To interpret distance-time graphs To construct distance-time graphs To construct and interpret speed-time graphs To recognise and interpret graphs that illustrate direct and inverse proportion To find approximate solutions to equations using graphs To estimate the area under a curve 		SKIP BLOCK
4	Expanding and Factorising	<ul style="list-style-type: none"> To expand and factorise with a single bracket To expand binomials To factorise quadratic expressions To factorise complex quadratic expressions To solve equations equal to 0 To solve quadratics by factorisation To complete the square To solve quadratic equations using the quadratic formula 		
5	Changing the subject	<ul style="list-style-type: none"> To solve linear equations To solve inequalities To form and solve equations and inequalities in the context of shape To change the subject of a formula 		

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		<ul style="list-style-type: none"> • To change the subject of a formula where the subject appears more than once • To solve an equation by iteration 		
6	Functions	<ul style="list-style-type: none"> • To use function machines • To substitute into expressions and formulae • To use function notation • To work with composite functions • To work with inverse functions • To plot graphs of quadratic functions • To solve quadratic inequalities • To understand and use trigonometric functions 		
CHRISTMAS				
7	Multiplicative Reasoning	<ul style="list-style-type: none"> • To use scale factors • To understand direct proportion • To construct complex direct proportion equations • To calculate with density and pressure • To understand inverse proportion • To construct complex inverse proportion equations • To calculate with ratio 		
8	Geometric Reasoning	<ul style="list-style-type: none"> • To calculate with basic angle facts • To calculate with angles in parallel lines • To calculate with interior and exterior angles in polygons • To prove geometric facts • To solve problems involving vectors • To use and apply the circle theorems 		

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		<ul style="list-style-type: none"> To review Pythagoras and trigonometry 		
9	Algebraic Reasoning	<ul style="list-style-type: none"> To simplify complex expressions To find the nth term of a linear sequence To find the nth term of a quadratic sequence To use rules for sequences To solve linear simultaneous equations To solve simultaneous equations with one quadratic To form algebraic proof To show regions which satisfy inequalities in two variables 		
10	Transforming and Constructing	<ul style="list-style-type: none"> To perform and describe line symmetry To perform and describe rotational symmetry To perform and describe a translation To perform and describe an enlargement of a shape To perform and describe a negative enlargement of a shape To identify transformations of shapes To perform and describe a series of transformations of a shape To identify invariant points To perform standard constructions using a ruler and a compass To solve loci problems 		

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		<ul style="list-style-type: none"> To understand and use trigonometrical graphs To sketch and identify translations of a graph of a given function To sketch and identify reflections of a graph of a given function 		
11	Listing and Describing	<ul style="list-style-type: none"> To work with organised lists To calculate probabilities from a sample space To use the product rule for counting To complete and use a Venn diagram To construct and interpret plans and elevations To use data to compare distributions To interpret scatter diagrams 		
12	REVISION	<ul style="list-style-type: none"> Revise from QLA following mocks and class feedback 		
EASTER				
13	REVISION and EXAMS	<ul style="list-style-type: none"> Revise from QLA following mocks and class feedback 		

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