

KEVICC Key Stage 4 Curriculum Subject: Mathematics			Key Vocabulary and notation.			
Summer Half-Term			Parallel Line Horizontal Point Vertical Coordinates Straight line Substitute Axis Satisfies Equation Below Graph Above Intercept Simultaneous Linear Equations Table of values Interception Solutions Gradient Perpendicular y-intercept Product Parallel Reciprocal Gradient Negative Scale Reciprocal Slope Positive Steep Negative Interpret Mathematical questioning should be designed to unpick the structure of the maths and deepen the student's understanding. When students talk about mathematical concepts, they should develop the vital mathematical language that helps them explain their ideas fully. Students are expected and encouraged to use terminology during all discussions, verbal feedback and in written content.			
Term: Year 11 Autumn Term – Block Five		Topic: The Equation of a Straight Line				
What is the essential knowledge from this unit? What do students need to remember and understand?						
	Specification content	Specification notes				
A9	<u>Use the form $y = mx + c$ to identify parallel lines</u> <u>Find the equation of the line through two given points, or through one point with a given gradient</u>					
Students should be able to: - recognise that equations of the form $y = mx + c$ correspond to straight-line graphs in the coordinate plane - draw graphs of functions in which y is given explicitly or implicitly in terms of x - complete tables of values for straight-line graphs - calculate the gradient of a given straight-line given two points or from an equation - manipulate the equations of straight lines so that it is possible to tell whether lines are parallel or not - work out the equation of a line, given two points on the line or given one point and the gradient.						
A9h	Plot graphs of equations that correspond to straight-line graphs in the coordinate plane; <u>use the form $y = mx + c$ to identify parallel lines</u> and perpendicular lines; <u>find the equation of the line through two given points, or through one point with a given gradient</u>					
Students should be able to: - work out the gradients of lines that are parallel and perpendicular to a given line - show that two lines are parallel or perpendicular using gradients - manipulate the equations of straight lines so that it is possible to tell whether or not lines are perpendicular - know that the gradients of perpendicular lines are the negative reciprocal of each other.						
A10	Identify and interpret gradients and intercepts of linear functions graphically and algebraically					
Students should be able to: - recognise that equations of the form $y = mx + c$ correspond to straight-line graphs in the coordinate plane with gradient m and y-intercept at $(0, C)$. - work out the gradient and the intersection with the axes.						
What prior learning supports understanding of this content?					How does this content link to future learning?	
- Draw a coordinate grid (all four quadrants). - Describe positions on the full co-ordinate grid (all four quadrants). - Plot coordinates in all four quadrants. - Simplify algebraic expressions. - Substitute numerical values into formulae and expressions. - Form and solve one-step and two-step equations.					- Solve linear equations in one unknown algebraically including those with the unknown on both sides of the equation. - Find approximate solutions using a graph including use of brackets. - Solve quadratic equations (including those that require rearrangement) algebraically by factorising, by completing the square and by using the quadratic formula; find approximate solutions using a graph. - Recognise, sketch, and interpret graphs of linear and quadratic functions. - Identify and interpret roots, intercepts and turning points of quadratic functions graphically; deduce roots algebraically and turning points by completing the square including the symmetrical property of a quadratic.	
Reading: Where in the unit are students supported to read complex academic text? - Reading and understanding mathematical questions and problems' – teacher input. - Decoding complex examination questions - explain what they are asking the student to do' – teacher input. - Following instructions to solve problems - break down the tasks – teacher input. - Recognising terminology, numbers, and symbols.			Writing: Independent writing tasks and how they are structured - Using the correct subject specific terminology for numbers and symbols – examination papers, class books. - Responding to questions that ask for an explanation or a reason – examination papers, class books. - Self-evaluation, reviewing, reflecting and analysis of own work – class books, personalised learning checklists and analysis. - Creating notes that can be used later for revision purposes - class books, revision cards, mind maps etc.			

Key assessments:

How will do students review the information learned?

End of block assessments.

AQA end of block assessments provide a quick progress check at the end of each block of learning to make sure students have understood the content being covered. These are available for both foundation and higher tiers.

End of term/year assessments and mock examinations.

End of term assessments assessing the students' progress towards targets and provide diagnostic information to modify future teaching.

End of year 9 and 10 examinations assessing the students' progress towards targets and provide diagnostic information to modify future teaching.

Two mock examinations seasons take place during year 11 using previous years AQA 8300 examination papers. Students to experience the full suite of papers at both Foundation and higher tiers using Non-calculator and Calculator requirements.

All examinations will explore the three examination papers at both foundation and higher tiers using non-calculator and calculator requirements.

How will feedback be seen?

Marked end of block, term assessments and mock examinations.

Personalised learning checklists for all assessments identifying strengths and areas of development.

Written teacher feedback and marking in compliance with faculty and College Marking Policies. Student responses to marking. Students self-mark using purple pen. Verbal feedback given every lesson from teacher and peers as appropriate. Teacher and student self-assessment of presentation of class books will be completed to ensure written work is of high standard and students are achieving their potential.