

KEVICC Key Stage 4 Curriculum Subject: Mathematics		Key Vocabulary and notation.									
Autumn Half-Term											
Term: Year 11 Autumn Term – Block Five	Topic: Sketching Graphs										
What is the essential knowledge from this unit? What do students need to remember and understand?											
	<table border="1"> <thead> <tr> <th></th> <th>Specification content</th> <th>Specification notes</th> </tr> </thead> <tbody> <tr> <td>A12</td> <td>Recognise, sketch and interpret graphs of linear functions, quadratic functions, <u>simple cubic functions and the reciprocal function $y = \frac{1}{x}$ with $x \neq 0$</u></td> <td><u>(including using the symmetry of functions)</u></td> </tr> <tr> <td colspan="3"> Students should be able to: <ul style="list-style-type: none"> draw, sketch, recognise and interpret linear functions calculate values for a quadratic and draw the graph draw, sketch, recognise and interpret quadratic graphs draw, sketch, recognise and interpret graphs of the form $y = x^3 + k$ where k is an integer draw, sketch, recognise and interpret the graph $y = \frac{1}{x}$ with $x \neq 0$ find an approximate value of y for a given value of x, or the approximate values of x for a given value of y. </td> </tr> </tbody> </table>		Specification content	Specification notes	A12	Recognise, sketch and interpret graphs of linear functions, quadratic functions, <u>simple cubic functions and the reciprocal function $y = \frac{1}{x}$ with $x \neq 0$</u>	<u>(including using the symmetry of functions)</u>	Students should be able to: <ul style="list-style-type: none"> draw, sketch, recognise and interpret linear functions calculate values for a quadratic and draw the graph draw, sketch, recognise and interpret quadratic graphs draw, sketch, recognise and interpret graphs of the form $y = x^3 + k$ where k is an integer draw, sketch, recognise and interpret the graph $y = \frac{1}{x}$ with $x \neq 0$ find an approximate value of y for a given value of x, or the approximate values of x for a given value of y. 			Parallel Above Horizontal Simultaneous Vertical Equations Straight line Interception Axis Solutions Equation Perpendicular Graph Product Intercept Reciprocal Linear Negative Table of Reciprocal values Positive Gradient Negative y-intercept Cube Parallel Cubic Gradient Estimate Scale Curve Slope Asymptote Steep Infinity Interpret Reciprocal Line Tends towards Point Quadratic Coordinates Roots Substitute Solution Satisfies Meets Below 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.
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What prior learning supports understanding of this content? <ul style="list-style-type: none"> 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. 	How does this content link to future learning? <ul style="list-style-type: none"> Solve quadratic equations algebraically by factorising. Find approximate solutions using a graph. 										
Reading: <i>Where in the unit are students supported to read complex academic text?</i> <ul style="list-style-type: none"> 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: <i>Independent writing tasks and how they are structured</i> <ul style="list-style-type: none"> 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.