

KEVICC Key Stage 4 Curriculum Subject: Mathematics			Key Vocabulary and notation.	
Autumn Half-Term				
Term: Year 10 Autumn Term – Block Three		Topic: Surds		
What is the essential knowledge from this unit? What do students need to remember and understand?				
	Specification content	Specification notes		
N8	Calculate exactly with fractions, surds, <u>and multiples of <math>\pi</math></u> ; simplify surd expressions involving squares (e.g. $\sqrt{12} = \sqrt{4 \times 3} = \sqrt{4} \times \sqrt{3} = 2\sqrt{3}$ ) and rationalise denominators			
Students should be able to: <ul style="list-style-type: none"><li>identify equivalent fractions</li><li>write a fraction in its simplest form</li><li>simplify a fraction by cancelling all common factors, using a calculator where appropriate, for example, simplifying fractions that represent probabilities</li><li>convert between mixed numbers and improper fractions</li><li>compare fractions</li><li>compare fractions in statistics and geometry questions.</li><li>add and subtract fractions by writing them with a common denominator</li><li>convert mixed numbers to improper fractions and add and subtract mixed numbers</li><li>give answers in terms of <math>\pi</math> and use values given in terms of <math>\pi</math> in calculations.</li></ul>				
N8h	Calculate exactly with fractions, surds, <u>and multiples of <math>\pi</math></u> ; simplify surd expressions involving squares (e.g. $\sqrt{12} = \sqrt{4 \times 3} = \sqrt{4} \times \sqrt{3} = 2\sqrt{3}$ ) and rationalise denominators			
Students should be able to: <ul style="list-style-type: none"><li>simplify surds</li><li>rationalise a denominator</li><li>simplify expressions using the rules of surds</li><li>expand brackets where the terms may be written in surd form</li><li>solve equations which may be written in surd form.</li></ul>				
What prior learning supports understanding of this content?			How does this content link to future learning?	
<ul style="list-style-type: none"><li>Use the rules of indices to form expressions.</li><li>Understand and use the addition and subtraction rules.</li><li>Explore and use standard index form.</li><li>Calculate with numbers in standard form using the four operators in context.</li><li>Work out powers and roots.</li><li>Cancel fractions to their simplest terms.</li><li>Add, subtract, multiply and divide fractions.</li></ul>			<ul style="list-style-type: none"><li>Use index laws for multiplication and division of integer powers</li><li>Calculate with positive integer indices.</li><li>Use index laws for multiplication and division of positive, negative and fractional indices.</li><li>Know, use, and understand the term standard form</li><li>Write an ordinary number in standard form</li><li>Write a number written in standard form as an ordinary number</li><li>Order and calculate with numbers written in standard form</li><li>Solve simple equations where the numbers are written in standard form.</li></ul>	
Reading: Where in the unit are students supported to read complex academic text?			Writing: Independent writing tasks and how they are structured	
<ul style="list-style-type: none"><li>Reading and understanding mathematical questions and problems' – teacher input.</li><li>Decoding complex examination questions - explain what they are asking the student to do' – teacher input.</li><li>Following instructions to solve problems - break down the tasks – teacher input.</li><li>Recognising terminology, numbers, and symbols.</li></ul>			<ul style="list-style-type: none"><li>Using the correct subject specific terminology for numbers and symbols – examination papers, class books.</li><li>Responding to questions that ask for an explanation or a reason – examination papers, class books.</li><li>Self-evaluation, reviewing, reflecting and analysis of own work – class books, personalised learning checklists and analysis.</li><li>Creating notes that can be used later for revision purposes - class books, revision cards, mind maps etc.</li></ul>	
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.