Learning Plan 3	Subject/Pwnc: Mathemateg	Year/Blwyddyn: 10 (A)

The Four Purposes in Maths and Numeracy:

Ambitious, capable learners who:
set themselves high standards; seek and enjoy challenge; are increasingly knowledgeable and skilful; are questioning; enjoy solving problems; can communicate effectively; can explain the ideas and concepts; can use number effectively; understand how to interpret data and apply mathematical concepts

Enterprising, creative contributors who:
connect and apply their knowledge and skills to create ideas; think creatively to reframe and solve problems; identify and grasp opportunities; take measured risks

Ethical, informed citizens

Healthy, confident individuals who:
face and overcome challenge; have the skills and knowledge to manage everyday life

CHRIST THE WORD CATHOLIC SCHOOL
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Knowledge focus/what matters:

Algebra *uses symbol systems to express the structure of mathematical relationships.*

Learning objective/key question	What will I know and be able to do? I can…	How will I develop my skills? (Success Criteria)	Homework/Gwaith cartref to support progress	
Weeks 1-2: Mock exam	Revise, consolidate and complete mock exam for Maths and Numeracy Unit 2 (non-calculator).	Recall and use mathematical knowledge: • demonstrate conceptual understanding through remembering and using mathematical facts, relationships, concepts and techniques • follow direct instructions to solve problems involving routine procedures fluently Select and apply mathematical methods: • select and use the mathematics and resources needed to solve a problem fluently • select and apply mathematical methods to solve nonstandard or unstructured, multi-step problems fluently • make decisions when tackling a given task, for example, choosing how to display given information • communicate mathematically, using a wide range of mathematical language, notation and symbols to explain reasoning and to express mathematical ideas unambiguously Demonstrate strategic competence by making connections between different aspects of mathematics and using mathematical skills in unfamiliar contexts: • demonstrate strategic competence by interpreting and analysing problems and generating strategies to solve them • devise strategies to solve non-routine or unfamiliar problems, breaking them into smaller, more manageable tasks where necessary • construct arguments and proofs using logical reasoning and deduction	Wk 1 Wk 2	

		• interpret findings or solutions in the context of the original problem • use inferences and deductions made from mathematical information to draw conclusions		
Weeks 3-5: Working with linear, quadratic and cubic graphs	Draw and interpret quadratic graphs of the form $y = ax^2 + bx + c$, and draw the line $y = k$ in order to solve $ax^2 + bx + c = k$ Use straight line graphs to locate regions given by inequalities Identify the equations of lines parallel or perpendicular to a given line Form, manipulate and solve two simultaneous linear equations with whole number coefficients by graphical methods Draw, interpret, recognise and sketch the graphs of $y = ax^2 + b$, $y = (ax + b)(cx + d)$, $y = a/x$, $y = ax^3$ Draw and interpret graphs of the form $y = ax^3 + b$ and $y = ax^3 + bx^2 + cx + d$ Use a graphical method to solve $ax^2 + bx + c = dx + e$ and $ax^3 + bx^2 + cx + d = ex + f$ Draw and interpret graphs when y is given implicitly in terms of x	Understanding: I can explain how different types of graphs represent relationships, patterns and behaviours, and how these help model real situations. I can choose the most effective representation (algebraic, graphical, symbolic, digital) to understand or explore a problem. Communicating & Skills: I can present clear, accurate graphs and algebraic work using correct notation, structure and mathematical language. I can use graphing software or digital tools to investigate functions, compare methods, and support explanations for others. Fluency: I can manipulate algebraic expressions and rearrange equations confidently, including those involving quadratics and cubics. I can sketch, interpret and analyse a wide range of graphs efficiently, even under exam conditions. Reasoning: I can construct clear, structured arguments to justify why a graphical or algebraic solution works. I can critique different solution paths, evaluate their effectiveness, and refine my reasoning to increase rigour. Problem Solving: I can link ideas from algebra, graphs, geometry and inequalities to solve sophisticated, unfamiliar problems independently. I can design and test multiple strategies, generalise results, and justify why a chosen method is the most effective.	Wk 3 Wk 4	
	Show your learning	Success criteria in the box above		
Week 6: Feedback and review of mock exam	Read and respond to feedback based on mock exams Self-assess performance and identify areas for improvement Take steps to begin making improvement in identified areas	Recall and use mathematical knowledge Select and apply mathematical methods Demonstrate strategic competence by making connections between different aspects of mathematics and using mathematical skills in unfamiliar contexts	Wk 5 Wk 6	