

Unit 1	Subject matter (sub topics)	Assessment (Progress tests summative)
Week 1 Topic 1: Some algebraic forms Topic 2: Introducing Functions	Special forms, Simplifying expressions, Functions and combining functions	Activities: 1.1 – 1.5
Week 2 Topic 3: Special Functions	Polynomial functions The absolute value function, rational functions	Activities: 1.5-1.15;
Week 3	Graphs of rational functions, inverses of mathematical functions, Continuous and discontinuous functions	Activities: 1.16-1.20 Progress Test 1
Week 4 Exponential functions and logarithms	Growth functions, interest rates and the exponential function, the special number e ,	Activities: 1.21-1.26
Week 5	decay function, the laws of logarithms, applications of logarithms	Activities: 1.27-1.29 Progress Test 2

Unit 2	Subject matter	assessment
Week 1 Topic 1: The Straight Line	Two points in the plane, displacements, length of a line segment, gradient of a line segment, parallel and perpendicular line segments, mid point of a line segment	Activity 2.1-2.7

Week 2 Topic 1 Con't Topic 2: The Circle and other curves	The straight line, standard form of a straight line, some special straight lines, The circle, the ellipse	Activity 2.8-2.15
Week 3	The hyperbola, the parabola. Conic sections, intersection of straight lines and curves, tangents and normal lines	Activity 2.16-2.19 Progress Test 1
Week 4 Topic 3: Trigonometry	Rotations, trigonometric ratios, Identities	Activity 2.19-2.30
Week 5 Topic 4: Periodic functions, their graphs and applications	radian measure and applications, Periodic functions, their graphs and applications	Activity 2.30-2.46
Week 6	Inverse trigonometric functions	Activity 2.47- 2.52 Progress Test 2

Unit 3	Subject matter	Assessment
Week 1 Topic 1: rates of change and the derivative	Describing change with graphs, rate of change, the gradient function, the derivative, functions without derivatives	Activities 3.1-3.7
Week 2	the derivative con't, functions without derivatives	Activity 3.7-3.14
Week 3 Topic 2: Derivatives of	Exponential and logarithmic functions,	Activity 3.15-3.19

trigonometric, exponential and logarithmic functions		Progress Test 1
Week 4 Topic 3: Optimisation problems	Maxima and minima, identifying maxima and minima, Optimisation problems	Activity 3.19 – 3.26 Progress Test 2
Week 5 Topic 4: Graphs and mathematical models	Rules for differentiation, combinations of functions, higher derivatives	Activity 3.27 – 3.38
Week 6	higher derivatives con't, approximate solutions	Activity 3.39-3.46 Progress Test 3
Week 7 Topic 5: The integral calculus and applications	Anti-derivatives, notation, rules for finding integrals, the integral at a point	Activity 3.46-3.54
Week 8	area as an integral, (incl. approximating definite integrals)	Activity 3.55-3.60 Progress Test 4

Unit 4	Subject matter	Assessment
Week 1 Topic 1: sequences and series	Recurrence relations, convergence, arithmetic sequences, sum of arithmetic sequences, geometric sequences, sum of geometric series	Activity 4.1-4.7
Week 2 Topic 2: Financial mathematics	Present value of an ordinary annuity, amortisation of a loan	Activity 4.9-4.11 Progress Test 1
Week 3 Topic 3: Probability in data	Probability in data analysis, the tree diagram, probability of an event, Summary of probability rules, counting rules	Activity 4.11-4.20

analysis	(permutations and combinations)	
Week 4	Probability distributions for counting data, the binomial model, counting and measuring data, continuous probability distributions	Activity 4.21-4.29
Week 5 Topic 4: Probability Distributions	The uniform distribution	Activity 4.30-4.36 Progress test 2
Week 6	Revision	Exam
Week 7		