



Mathematics Department – Lower Sixth C1 Scheme of Work

Textbook: Edexcel Modular Mathematics Core Mathematics 1

Unit 1: Algebra and Functions

- 1.1 Simplifying expressions by collecting like terms
- 1.2 The rules of Indices
- 1.3 Expanding an expression
- 1.4 Factorising expressions
- 1.5 Factorising quadratic expressions
- 1.6 The rules of indices for all rational exponents
- 1.7 The use and manipulation of surds
- 1.8 Rationalising the denominator of a fraction when it is a surd

Unit 2: Quadratic Functions

- 2.1 Plotting the graphs of quadratic functions
- 2.2 Solving quadratic equations by factorisation
- 2.3 Completing the square
- 2.4 Solving quadratic equations by completing the square
- 2.5 Solving quadratic equations by using the formula
- 2.6 Sketching graphs of quadratic equations and the discriminant

Test on Units 1&2

Unit 3: Equations and Inequalities

- 3.1 Solving simultaneous linear equations by elimination
- 3.2 Solving simultaneous linear equations by substitution
- 3.3 Solving simultaneous equations with one linear and one quadratic
- 3.4 Solving linear inequalities
- 3.5 Solving quadratic inequalities

Unit 4: Sketching Curves

- 4.1 Sketching the graphs of cubic functions
- 4.2 Interpreting graphs of cubic functions
- 4.3 Sketching the reciprocal function
- 4.4 Using the intersection points of graphs of functions to solve equations
- 4.5 Transforming curves by performing a simple translation

4.6 Transforming curves by performing a simple stretch

4.7 Transforming a given curve

Test on Units 3&4

Unit 5: Coordinate Geometry

5.1 The equation of a straight line in the form $y=mx+c$ or $ax+by+c=0$

5.2 The gradient of a straight line

5.3 The equation of a straight line in the form $y-y_1 = m(x-x_1)$

5.4 The formula for finding the equation of a straight line

5.5 The conditions for 2 straight lines to be parallel or perpendicular

Unit 6: Sequences and Series

6.1 Introduction to sequences

6.2 The n th term of a sequence

6.3 Sequences generated by a recurrence relationship

6.4 Arithmetic sequences

6.5 Arithmetic series

6.6 The sum to n of an arithmetic series(Proof of formula for sum should be known - both versions)

6.7 Using sigma notation

Test on Units 5&6

Unit 7: Differentiation

7.1 Estimation of the gradient of a tangent to a curve

7.2 Simple differentiation

7.3 Using differentiation to calculate the gradient of a tangent to a curve

7.4 Differentiating polynomials

7.5 Simplifying expressions and then differentiating

7.6 Second order derivatives

7.7 Using differentiation to find the rate of change

7.8 Finding the equation of the tangent and normal to a curve at a point

Unit 8: Integration

8.1 Integrating simple functions

8.2 Integrating polynomials

8.3 Further integration

8.4 Simplifying expressions and then integrating

8.5 Finding the constant of integration(Finding the equation of a curve)

Test on Units 7&8