YEAR 12 C1 - Planning

Time	Chapter	Reference
	1. Algebra and Functions	
5 Lessons	1.1 Simplifying an expression by collecting like terms	Exercise 1A
1:1 1:3 1:4	1.2 The laws of indices	Exercise 1B
1:5	1.3 Expanding an expression	Exercise 1C
1:2 1:6	1.4 Factorising an expression	Exercise 1D
1:7	1.5 Factorising a quadratic expression	Exercise 1E
1:8	1.6 The laws of indices for all rational exponents	Exercise 1F
	1.7 The use and manipulation of surds	Exercise 1G
	1.8 Rationalising the denominator of a fraction when it is a surd	Exercise 1H
	Summary of Key Points	**Mixed Exercise 1I**
	2. Quadratic Functions	
5 Lessons	2.1 Plotting the graphs of quadratic functions	Exercise 2A
	2.2 Solving quadratic equations by factorisation	Exercise 2B

2:1 2:2 2:3 2:4 2:5 2:6	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 formulae **Summary of Key Points**	Exercise 2C Exercise 2D Exercise 2E Exercise 2F **Mixed Exercise 2G**
5 Lessons 3:1 3:2 3:3 3:4 3:5	**3. Equations and inequalities** 3.1 Solving simultaneous linear equations by elimination 3.2 Solving simultaneous linear equations by substitution 3.3 Using substitution when one equation is linear and the other is quadratic 3.4 Solving linear inequalities 3.5 Solving quadratic inequalities **Summary of Key Points**	 Exercise 3A Exercise 3B Exercise 3C Exercise 3D Exercise 3E **Mixed Exercise 3F**
6 Lessons	**4. Sketching curves** 4.1 Sketching the graphs of cubic functions	 Exercise 4A

4:1 4:2 4:3 4:4 4:5 4:6 4:7	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 The effect of the transformations f($x + a$) and f($x – a$) 4.6 The effect of the transformations f(ax) and af(x) 4.7 Performing transformations on the sketches of curves **Summary of Key Points**	Exercise 4B Exercise 4C Exercise 4D Exercise 4E Exercise 4F Exercise 4G **Mixed Exercise 4H**
4 Lessons 5:1 5:2 5:3 5:4 5:5	**5. Coordinate geometry in the (x,y) plane** 5.1 The equation of a straight line in the form $y = mx + c$ or $ax + by + cz = 0$ 5.2 The gradient of a straight line 5.3 The equation of a straight line of 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 two straight lines to be parallel or perpendicular **Summary of Key Points**	Exercise 5A Exercise 5B Exercise 5C Exercise 5D Exercise 5E **Mixed Exercise 5F**

6 Lessons 6:1 6:2 6:3 6:4 6:5 6:6	**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 6.7 Using Σ notation **Summary of Key Points**	 Exercise 6A Exercise 6B Exercise 6C Exercise 6D Exercise 6E Exercise 6F Exercise 6G **Mixed Exercise 6H**
6 Lessons 7:1 7:2 7:3 7:4 7:5 7:6	**7. Differentiation** 7.1 The derivative of f(x) as the gradient of the tangent to the graph y=f(x) 7.2 Finding the formula for the gradient of x^n 7.3 Finding the gradient formula of simple functions 7.4 The gradient formula for a function when the powers of *x* are real numbers	 Exercise 7A Exercise 7B Exercise 7C Exercise 7D

7:7 7:8	7.5 Expanding or simplifying functions to make them easier to differentiate 7.6 Finding second order derivatives 7.7 Finding the rate of change of a function at a particular point 7.8 Finding the equation of the tangent and normal to a curve at a point **Summary of Key Points**	Exercise 7E Exercise 7F Exercise 7G Exercise 7H **Mixed Exercise 7I**
6 Lessons 8:1 8:2 8:3 8:4 8:5	**8. Integration** 8.1 Integrating x^n 8.2 Integrating simple expressions 8.3 Using the integral sign 8.4 Simplifying expressions before integrating 8.5 Finding the constant of integration **Summary of Key Points**	 Exercise 8A Exercise 8B Exercise 8C Exercise 8D Exercise 8E **Mixed Exercise 8F**