



YEAR 12

Autumn Term	Spring Term	Summer Term
<p>Use and Manipulate surds. Form and solve quadratic equations using, factorisation, completing the square and quadratic formula. Solve problems involving quadratic equations. Solve simultaneous equations. Solve linear and quadratic inequalities. Solve problems involving gradients, mid points, and the distance between points. Find the general equation of a straight line. Know the connections between parallel and perpendicular lines. Know the general equation of a circle</p>	<p>Use transformations of functions to find equations of transformed graphs. Find the n^{th} term and sum of arithmetic and geometric sequences. Find the sum to infinity of geometric series Expand binomial series. Use Sine and Cosine rules. Understand and use radians. Solve problems using kinematic graphs. Solve problems using kinematics in both 1 and 2 dimensions. Solve problems using constant acceleration.</p>	<p>Integrate rational functions. Find the area between curves. Use trapezium rules to estimate areas. Solve problems using momentum Solve problems involving projectiles Exam revision and practice.</p>
HALF TERM		
<p>Algebraic manipulation of polynomials. Algebraic division Use factor theorem and remainder theorem. Sketch graphs of polynomials. Interpret the solutions of equations as the points of graphs. Know the effect of transformations on graphs and their equations. Find the equation of tangents and normals of circles. Differentiate and integrate polynomials. Solve problems involving differentiation. Find the area under a curve.</p>	<p>Find arc lengths and area of sectors. Solve Trigonometrical equations. Work with fractional and negative indices. Use laws of logarithms to simplify expressions. Differentiate polynomials with negative and fractional powers. Use differentiation to find stationary points. Solve problems using kinematics in 2 dimensions Calculate with forces in 1 and 2 dimensions</p>	<p>Find the domain and range of functions. Form Composite functions. Find inverse functions. Transform simple graphs. Understand modulus function. Solve equations and inequalities involving modulus functions. Sketch graphs of trigonometric functions. Use Sec, Cosec and Cot functions. Know and use identities involving sec, cosec and cot.</p>

Bishop Milner Catholic College

