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| **Curriculum Plan for Parents – Year 10 Higher GCSE (from 2016) (Edexcel exam board)** |

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| **Subject** | Mathematics | **Contact Person** | Mrs Shaw / Mrs Landy |

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| **Half term and topic** | **Your child will learn....** | **Key Homework** | **Assessment** |
| **Autumn 1**  Number  Algebra | Work out the number of ways of performing a series of tasks; estimation; solve written problems involving LCM and HCF; products of prime factors; Index Laws; evaluate negative indices; evaluate fractional indices; standard form; simplify surds; rationalise a denominator; expand double brackets; factorise expressions including quadratics; solve equations; rearrange formulae; the difference of two squares; | Homework will be set once each week to consolidate learning and provide challenge to promote independent thought. (Homework may be revision in the run-up to a test). | October – formal assessment using a non-calculator GCSE past paper |
| **Autumn 2**  Algebra  Data Handling  Fractions  Ratio & Proportion  Angles | Find the nth term of an arithmetic sequence; find the nth term of a geometric sequence; identify if a number is in a given sequence; back-to-back stem & leaf diagrams; pie charts; time series graphs; predict trends; scattergraphs and correlation; find the averages from ungrouped and grouped frequency tables; two-way tables; recognise misleading graphs; calculate and problem-solve with fractions and mixed numbers; convert between currencies and other measures; solve problems involving proportion; solve problems involving angles in triangles and quadrilaterals; interior and exterior angles of all polygons; Pythagoras’ Theorem; | Homework will be set once each week to consolidate learning and provide challenge to promote independent thought. (Homework may be revision in the run-up to a test). |  |
| **Spring 1**  Angles  Graphs | Trigonometry; angles of elevation and depression; know the exact values of sine, cosine and tangent for certain values; write the gradient and y-intercept from a linear equation; compare graphs from their equations; sketch graphs from their equations; find the gradient of a line through two points; find the length of a line segment; interpret distance-time graphs and velocity-time graphs; calculate acceleration; find the equations of lines parallel or perpendicular to a given line; draw quadratic graphs and identify the equation of the line of symmetry; draw graphs of cubic and reciprocal functions; identify the equation of a circle and draw its graph; | Homework will be set once each week to consolidate learning and provide challenge to promote independent thought. (Homework may be revision in the run-up to a test). | February – mid-year examinations (non-calculator and calculator GCSE past papers) |
| **Spring 2**  Area and Volume  Transformations  Constructions  Loci  Algebra | Perimeter and area of compound shapes; area of a trapezium; convert between units of area; convert between units of volume; calculate the minimum and maximum possible values of a measurement; volume and surface area of prisms, spheres, pyramids and cones (including frustums); area and circumference of a circle (calculator and in terms of π); arc length and sector area; enlargements involving negative or fractional scale factors and a centre of enlargement; carry out and describe combinations of transformations; bearings; scale drawings; construct line and angle bisectors; construct triangles; solve problems involving loci; find the roots of quadratic functions; rearrange quadratic equations; use the quadratic formula to solve an equation; completing the square; | Homework will be set once each week to consolidate learning and provide challenge to promote independent thought. (Homework may be revision in the run-up to a test). |  |
| **Summer 1**  Algebra  Probability  Multiplicative-Reasoning | Algebra (continued); solve simultaneous equations (including quadratics); solve inequalities and show on a graph; sample space diagrams; mutually exclusive events; frequency trees, probability trees (including conditional events); venn diagrams and set notation; repeated percentage change involving growth or decay problems; | Homework will be set once each week to consolidate learning and provide challenge to promote independent thought. (Homework may be revision in the run-up to a test). |  |
| **Summer 2**  Multiplicative-Reasoning  Revision of all Topics | Solve problems involving compound measures; use direct and indirect proportion; | Homework will be set once each week to consolidate learning and provide challenge to promote independent thought. (Homework may be revision in the run-up to a test). | June – end-of-year examinations (non-calculator and calculator GCSE past papers) |

Mathematics at Holly Lodge supports the GCSE Maths qualification provided by the Edexcel examination board. Further details can be found at <https://qualifications.pearson.com/en/qualifications/edexcel-gcses/mathematics-2015.html>