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| **Curriculum Plan for Parents – Year 11 Higher GCSE (2016/2017 only) (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**Area and VolumeSequencesProbabilityMultiplicative-Reasoning | Convert between units of area; convert between units of volume; solve problems involving upper and lower bounds; arc length and area of sectors; volume and surface area of prisms, pyramids, cones and spheres; find and use the nth term of a quadratic sequence; use the product rule for the outcome of two or more events; mutually exclusive events; relative frequency; tree diagrams; conditional probability; venn diagrams and set notation; growth and decay problems; use formulae to calculate speed and acceleration; 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). | October – formal assessment using a non-calculator GCSE past paper |
| **Autumn 2**TrigonometryStatisticsEquations & Graphs | Draw and use the graphs of sine, cosine and tangent for any angle; use trigonometry to find the area of a triangle; solve problems using the sine rule; solve problems using the cosine rule; apply Pythagoras and trigonometry to 3D situations; transform trigonometric graphs; draw an interpret cumulative frequency curves, box and whisker diagrams, and histograms; calculate frequency density; compare two sets of data; solve simultaneous equations graphically; represent inequalities on a 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). | December – mock examinations (non-calculator and calculator assessments using GCSE past papers) |
| **Spring 1**Equations & GraphsCircle TheoremsAlgebra | Equations & Graphs (continued); draw the graphs of quadratic functions; solve quadratic equations graphically, by using the formula, by factorising or by completing the square; sketch graphs of cubic and reciprocal functions; recall and apply the Circle Theorem Rules to solve problems involving angles, triangles and circles; change the subject of a complicated formula; simplify algebraic fractions; calculate with algebraic fractions; rationalise the denominator of a fraction; | 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 2**AlgebraVectorsGeometric Proof | Algebra (continued); use and understand function notation; find composite functions; find inverse functions; prove a result using algebra; understand and use vector notation; represent vectors graphically; prove lines are parallel; prove points are collinear; solve 2D geometric problems using vectors;  | 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). | March – formal assessment using calculator GCSE past papers |
| **Summer 1**Proportion & GraphsRevision of all Topics | Write and use equations and formulae for direct and inverse proportion; solve problems involving square and cubic proportionality; recognise graphs of exponential functions; estimate the area under a non-linear graph; understand what a transformation of a function looks like in its function form; | 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** |  |  | GCSE examinations |

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>