

MOOR PARK HIGH SCHOOL: CURRICULUM

Key Stage 4 Long Term Planning

Year 11 SYLLABUS: AQA GCSE Mathematics 8300

Curriculum Area: Mathematics (core) – Higher

(Please note that knowledge, related skills and connections to previous learning are linked by colour coding)

Year 11	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1
Knowledge	Further quadratics, rearranging formulae and identities Trigonometry recap and extension Growth and decay	Equations of a circle Further equations and graphs Direct and inverse proportion	Inequalities Vectors Further sketching graphs	Sine and cosine rules Transforming functions Numerical methods Circle theorems	Gradients and rate of change Pre-Calculus and area under a curve Algebraic fractions Exam preparation - Revision
Skills	Factorise quadratics with coefficient greater than 1. Understand difference between equation and identity Construct algebraical arguments and proof Interpret inverse and composite functions Know the Pythagoras and trigonometric ratios. Use trigonometric ratios to find sides and angles. Know the exact values for 0, 30, 45, 60 and 90 degrees. Solve growth and decay problems including compound interest.	Recognise and use the equations of a circle with the center as the origin. Find the equation of a tangent to a circle Using the quadratic formula to solve quadratics, including completing the square to find solutions to graphs and turning points Recognise and sketch linear and quadratic functions Solve problems using direct and inverse proportion. Interpret equations for direct and inverse proportion. Use graphs for proportion problems	Solve linear and quadratic inequalities including set notation and on a graph. Add and subtract vectors. Multiply a vector by a scalar. Use diagrams and column representation of vectors. Use vectors to construct geometric arguments and proof Recognise, sketch and interpret linear, quadratic and reciprocal functions, including exponential and trigonometric functions	Know and apply the sine and cosine rule Know and apply the area of a triangle to find area, sides and angles Sketch translations and reflections of a given function Find approximate solutions to equations numerically using iteration Apply and prove circle theorems including angles, radii, tangents and chords	Identify gradient on a point of a curve Apply concepts of average and instantaneous rates of change in numerical, algebraic and graphical context Calculate gradients of graphs and area under a graph including quadratic and non-linear graphs
Connection to previous learning	Year 10 Summer 1 Quadratics, rearranging formula and identities Year 9 Summer 2 Pythagoras' Year 10 Spring 1 Year 10 Autumn 2 indices Year 10 Autumn 1 Calculating with percentages	Year 10 Summer 1 Algebra recap and review Year 9 Autumn 2 Coordinates and line graphs Year 9 Spring 1 Area and perimeter Year 10 Summer 1 Quadratics, rearranging formula and identities Year 11 Autumn 1 Further Quadratics, rearranging formula and identities	Year 9 Spring 2 Equations Year 9 summer 2 Transformations Year 10 Summer 2 Quadratic equations and graphs	Year 10 Spring 1 Pythagoras Theorem' and Trigonometry Year 9 Spring 2 Circumference and area	Year 9 Autumn 2 Coordinates and Line graphs
Assessment	Skills check at the end of each unit (3 during this term)	Skills check at the end of each unit (3 during this term) Mock 1 CAP1	Skills check at the end of each unit (3 during this term)	Skills check at the end of each unit (4 during this term) Mock 2 CAP2	Skills check at the end of each unit (3 during this term)
Homework	Sparx Maths	Sparx Maths	Sparx Maths	Revision plan	Revision plan

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Cultural Capital					
Literacy	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions
CIAG	Data Analysts - https://www.youtube.com/watch?v=yqylYh4bKKo	Software Engineer - https://youtu.be/Q9tUUP-phCw	Film Maker - https://www.youtube.com/watch?v=C7tQW5ieGHg	Climate Scientist - https://youtu.be/HZND8Fas8Uw Mathematics KS5 taster sessions	