

Key Stage 4 (10 & 11)		
Course title: GCSE Mathematics		
Exam board: AQA		
Specification code: 8300		
The timetable rolls over at the end of summer half term 1 so year 9 students become Key Stage 4 (10) students and start the Key Stage 4 (10) curriculum at the start of summer half term 2.		
	Foundation	Higher
Topic 1	Key Stage 4 Number Skills <ul style="list-style-type: none"> Recap of rounding from Year 9 Bounds and error intervals 	Key Stage 4 Number Skills <ul style="list-style-type: none"> Recap of rounding from Year 9 Recurring decimals Product rule for counting Bounds and error intervals Calculating with Bounds
Topic 2	Probability <ul style="list-style-type: none"> Recap of KS3 skills Exhaustive events Relative frequency and expectation Venn Diagrams Two-way tables and frequency trees Mutually exclusive and independent events Probability trees (HA only) 	Probability <ul style="list-style-type: none"> Recap of KS3 skills Exhaustive events Relative Frequency and expectation Venn Diagrams Two-way tables and frequency trees Mutually exclusive and independent events Probability trees
Topic 3	Indices <ul style="list-style-type: none"> Recap of powers and roots from KS3 Foundation Index Laws 	Indices <ul style="list-style-type: none"> Recap of KS3 powers and roots All index laws
Topic 4	Standard Form <ul style="list-style-type: none"> Follows on from Indices Recap of KS3 number skills 	Standard Form <ul style="list-style-type: none"> Leads on from Indices Recap of KS3 number skills

	<ul style="list-style-type: none"> • Writing numbers in and out of standard form • All four operations with standard form • Using a calculator with standard form • Problem solving 	<ul style="list-style-type: none"> • Converting numbers in and out of standard form • All four operations with standard form • Using a calculator with standard form • Problem Solving
Topic 5	Transformations <ul style="list-style-type: none"> • Recap of KS3 content • Translations using vector notation • Enlargements with a fractional s.f. • Invariant points 	Transformations <ul style="list-style-type: none"> • Recap of KS3 content • Fractional scale factors • Negative scale factors (HA only) • Invariant points • Combinations of transformations
Topic 6	Algebra <ul style="list-style-type: none"> • Recap of Year 9 content • Inequalities • Expanding double brackets • Factorising and solving quadratics • Changing the subject (HA only) • Equating coefficients (HA only) • Problem Solving 	Algebra <ul style="list-style-type: none"> • Recap of Year 9 content • Inequalities on a number line • Solving inequalities • Expanding two and three brackets • Factorising and solving quadratics • Changing the subject • Equating coefficients • Problem solving
Topic 7	Area & Volume <ul style="list-style-type: none"> • Recap of year 8 and 9 content • Volume of all prisms and cylinders (LA only) • Working backwards with area and volume • Perimeter and area of a sector • Volume of spheres and cones (HA only) • Converting units of area and volume • Density 	Area & Volume <ul style="list-style-type: none"> • Recap of year 8 and 9 content • Area of arcs and sectors • Volume of spheres, cones, pyramids • Converting units of area and volume • Density

Topic 8	Surface Area <ul style="list-style-type: none"> • Recall Pythagoras' Theorem from year 9 • Find the surface area of any prism • Find the surface area of spheres and cones (HA only) • Problem solving 	Surface Area <ul style="list-style-type: none"> • Recap of Pythagoras' theorem and naming 3D solids • Nets of 3D solids • Surface area of any prism • Surface area of a cylinder • Surface area of spheres and hemispheres • Surface area of a cone • Surface area of a pyramid • Problem solving
Topic 9	Congruence and Similarity <ul style="list-style-type: none"> • Recall transformations • Understand the meaning of congruence • Use the conditions of congruent triangles (HA only) • Understand the meaning of similarity and find missing lengths (fractional HA only) • Problem Solving 	Congruence and Similarity <ul style="list-style-type: none"> • Recall how to transform shapes • Understand the meaning of congruence • Understand the conditions for congruent triangles • Prove that triangles are congruent (HA only) • Understand and use similarity for lengths, area and volume • Volume of frustums • Problem Solving
Topic 10	Properties of polygons <ul style="list-style-type: none"> • Recap of content from KS3 • Isometric drawing • Plans and elevations • Find one interior and one exterior angle of a regular polygon • Problem solving 	Properties of polygons <ul style="list-style-type: none"> • Recap of KS3 content • Isometric drawing • Plans and elevations • Problem solving

Topic 11	Number Skills Recap <ul style="list-style-type: none"> Recap of the key number skills needed for the rest of GCSE Plenty of problem solving with number aimed at the Foundation GCSE 	Number Skills Recap <ul style="list-style-type: none"> Recap of skills from KS3 Four operations with surds Expanding brackets with surds Rationalising denominators Problem solving
Topic 12	Trigonometry <ul style="list-style-type: none"> Recap Pythagoras' Theorem Exact trig values Using SOHCAHTOA to find missing sides Using SOHCAHTOA to find missing angles (HA only) Problem solving 	Trigonometry <ul style="list-style-type: none"> Recap of Pythagoras' Theorem Exact values Use trigonometry 3D trig (HA only) Sine rule Cosine rule Problem solving
Topic 13	Circle Theorems <ul style="list-style-type: none"> Higher topic but Grade 4 classes should cover it if teachers feel that they are able 	Circle Theorems <ul style="list-style-type: none"> Know and use all 8 circle theorems Prove the circle theorems (HA only) Problem solving
Topic 14	Graphs <ul style="list-style-type: none"> •Recap of KS3 graphs •Identify the gradient and y intercept from lines not in the form $y = mx + c$ •Understand and identify parallel gradients •Sketching graphs •Understanding that correlation does not imply causation (HA only) •Finding the equation of a real-life graph 	Graphs <ul style="list-style-type: none"> Recap of KS3 graphs Gradient and y-intercept where the line isn't in the form $y = mx + c$ Parallel gradients Perpendicular gradients (HA only) Sketching graphs Solving quadratic inequalities (HA only) Finding the equation of real-life graphs

Topic 15	Sequences <ul style="list-style-type: none"> • Recap of KS3 sequences • Recognising and continuing Fibonacci style sequences • Recognising and continuing quadratic sequences 	<ul style="list-style-type: none"> • Recap of ks3 sequences • Recognising and continuing Fibonacci style sequences • Recognising and continuing quadratic sequences • Finding the nth term of a quadratic sequence
Topic 16	Bearings <ul style="list-style-type: none"> • Recap of angle work, compass points and scale drawings from KS3 • Understand what a bearing is • Draw and measure bearings • Calculate back bearings (HA only) • Calculate bearings with Trig and Pythagoras (HA only) • Problem solving 	Bearings <ul style="list-style-type: none"> • Recap of angle work, compass points and scale drawings from KS3 • Understand what a bearing is • Draw and measure bearings • Calculate back bearings • Calculate bearings with Trig and Pythagoras • Calculate bearings with Sine and Cosine Rule • Problem solving
Topic 17	Simultaneous Equations <ul style="list-style-type: none"> • Recap of substitution, solving equations and plotting linear graphs from KS3 • Solve simultaneous equations graphically • Solve simultaneous equations algebraically (HA only) • Problem solving 	Simultaneous Equations <ul style="list-style-type: none"> • Recap of substitution, solving equations and plotting linear graphs from KS3 • Solve simultaneous equations graphically • Solve simultaneous equations algebraically (HA only) • Problem solving
Topic 18	Statistical Measures <ul style="list-style-type: none"> • Recap of KS3 content • Calculate averages from a frequency table • Calculate averages from a grouped frequency table (HA only) 	Statistical Measures <ul style="list-style-type: none"> • Recap of KS3 content • Find averages from a frequency table • Find averages from a grouped frequency table • Calculate quartiles and the Interquartile range

	<ul style="list-style-type: none"> • Problem solving with averages and range 	<ul style="list-style-type: none"> • Solve problems with averages and range
Topic 19	Proportion <ul style="list-style-type: none"> • Recap of proportion from KS3 • Recognise and draw graphs of direct and inverse proportion • Direct proportion algebraically (HA only) • Inverse proportion algebraically (HA only) 	Proportion <ul style="list-style-type: none"> • Recap of unitary proportion from KS3 • Proportion graphs • Direct proportion algebraically • Inverse proportion algebraically • Solve problems with proportion
Topic 20		Equation of a Circle <ul style="list-style-type: none"> • Recap of equation of a line including parallel and perpendicular lines • Understand the equation of a circle • Find the equation of a tangent to a circle (HA only)