

Our Lady Queen of Peace

Catholic High School

Curriculum Overview

Year 10 Maths (Higher)

Careers

Local Market Information

Logistics and Warehousing, Manufacturing and Engineering, Construction, Healthcare and Care Sector

Skills

Communication, Teamwork, interpreting information, Logical reasoning, Accuracy, Financial literacy, Decision making

Jobs

Statistician, Supply Chain Planner, Quality Inspector, Quantity Surveyor, Mechanical or Electrical Engineer, Journalist, Interior Design

Knowledge & Understanding

Subject Specific Literacy Development

Cultural Capital / Careers / Enrichment Opportunities

Topics (Bigger Picture)

Knowledge (Key Concepts)

Recall & Retrieval Practice Focus

Key Vocabulary

Algebraic Foundations

Expand, Simplify, Factorise
Solve linear equations
Change the subject

Fractional Arithmetic
Simplify Surds

Expand
Simplify
Factorise
Solve
Rearrange
Linear Equation

Surds

Simplify
Add, Subtract, Multiply & Divide
Expand & Simplify
Rationalise (simple denominators)

Plotting Straight Line
Graphs

Rational
Irrational
Rationalise
Surd

Linear Graphs &
Coordinate Geometry

Mid Points of line segments
Plotting straight line graphs
Calculating Gradient
Properties of $y=mx+c$
Properties of parallel and perpendicular lines

Distance Time Graphs
Enlargement from a Centre

Linear
Gradient
Cartesian

Transformations

Enlarge (including fractional and negative scale factors)
Combined Transformations
Invariant Points

Reflections & Translations
Factorise Quadratics ($a=1$)

Enlarge
Translate
Rotate
Reflect
Invariant Point

Enrichment: Preparation for
UKMT Intermediate
Challenge

	Knowledge & Understanding			Subject Specific Literacy Development	Cultural Capital / Careers / Enrichment Opportunities
	Topics (Bigger Picture)	Knowledge (Key Concepts)	Recall & Retrieval Practice Focus	Key Vocabulary	
Half Term 2	Quadratic Equations & Graphs	Factorise quadratics ($a > 1$) Difference of two squares Completing the square Solving Quadratic Equations (Factorising, Formula, Completing the square) Plotting Quadratic Graphs Sketch quadratics and identify points of intersection with coordinate axis	Reverse Mean Draw Linear Graphs Area of Rectilinear shapes	Quadratic Expression Equation Coefficient Identify Sketch	Surface Area: Decorating a Room (Design & Cost) Enrichment: Preparation for UKMT Intermediate Challenge
	Volume & Surface Area	Volume of Prisms Volume of Cylinders Volume of Cones, Spheres and Pyramids Surface area of Prisms Surface area of Cones and Spheres Surface area of Cylinders	Area & Circumference of Circles Solve Linear Equations	Cross Section Prism Pyramid	
	Algebraic Fractions	Simplify Add, Subtract, Multiply and Divide Solve equations from algebraic fractions (including from ratio notation) Rearrange more complicated expressions	Solve Quadratic Equations Percentage Increase / Decrease using multipliers	Simplify Solve Reciprocal	
Half Term 3	Compound Interest	Chains of reasoning Compound Interest / Depreciation including finding: total, interest, interest rate, number of years)	Rules of Indices	Compound Interest Depreciation Multiplier	Financial Awareness: Researching Savings Accounts Enrichment: UKMT Intermediate Challenge
	Indices & Recurring Decimals	Convert recurring decimals to fractions Fractional and Negative Indices	Solving Linear Equations	Index Base Root Recurring Terminating	
	Simultaneous Equations	Solve linear by elimination Solve linear by substitution Solve non-linear including lines and circles and lines and parabolas	Pythagoras SOHCAHTOA	Elimination Substitution Coefficient	

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Half Term 4	Trigonometry	Revisit Pythagoras Right Angled Trigonometry (SOHCAHTOA) Sine Rule Cosine Rule Area of Triangle	Averages from Tables Quadratic Equations Angles in Parallel Lines	Sine Cosine Tangent Hypotenuse	TaskMaster – Problems with Data (Teamwork, Communication)
	Representing Data 1	Plot & Interpret Cumulative Frequency Diagrams Plot & Interpret Box Plots Compare Distributions Plot & Interpret Histograms	Angles in Polygons	Cumulative Quartile IQR Frequency Density Measure of Location Measure of Spread	
Half Term 5	Angle Reasoning	Revisit lines, triangles, parallel lines, quadrilaterals including algebraic Interior and Exterior angles in polygons	Nth term of linear sequences	Parallel Interior Exterior Polygon	TaskMaster – Mystery Patterns (Teamwork, Communication)
	Sequences	Nth term Linear Nth Term Quadratic Special Sequences	Probability Tables	Linear Arithmetic Quadratic Fibonacci	
	Probability	Probability Tables Tree Diagrams Venn Diagrams Set Notation	Solve Quadratic Equations Sketch Quadratic Functions	Union Intersection Independent Conditional Given Universal Set	
	Inequalities	Solve linear inequalities and understand number line notation Solve quadratic inequalities Solve quadratic simultaneous inequalities	Change subject of formula	Inequality Inequation Region	
	Functions 1	Evaluate functions Find and use inverse functions and understand notation $f^{-1}(x)$	Volume	Function Inverse	
	Compound Measures	Speed, Distance & Time Pressure, Force & Area Density, Volume & Mass Combining Mixtures	Rounding to significant figures	Speed Pressure Density	

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Half Term 6	Accuracy & Bounds	Error Intervals Problems with Upper and Lower Bounds	Ratio Problems	Rounded Truncated Upper Bound Lower Bound	Maths 6 th Form Visit

Key Assessments			
When	What will be assessed?	Why is this being assessed?	How will results be stored & students receive feedback?
October	Half Termly Topic Test on: Algebraic Foundations, Surds, Linear Graphs & Coordinate Geometry, Transformations	Can students apply what they have learned to exam questions within time constraints	QLA on Pupil Progress Follow up activities for students to address gaps
December	Half Termly Topic Test on: Quadratic Equations & Graphs, Volume & Surface Area, Algebraic Fractions		
January	Mid-Year Exam (Summative Assessment)	Check how well students can remember and apply what they know to a wide range of questions – can they identify the skills needed to answer questions including topics from KS3	QLA on Pupil Progress with strengths and areas for development given to students including follow up tasks
March	Half Termly Topic Test on: Compound Interest, Indices & Recurring Decimals, Simultaneous Equations, Trigonometry, Representing Data 1	Can students apply what they have learned to exam questions within time constraints	QLA on Pupil Progress Follow up activities for students to address gaps
May	Half Termly Topic Test on: Angle Reasoning, Sequences, Probability, Inequalities, Functions 1, Compound Measures		
June	End of Year Exam (Summative Assessment)	Check how well students can remember and apply what they know to a wide range of questions – can they identify the skills needed to answer questions including topics from KS3	QLA on Pupil Progress with strengths and areas for development given to students including follow up tasks