	Objective Y9 Extension
Indices	Use index notation and index laws for simple fractional powers
	Convert from one base number to another
Fractions, decimals and percentages	Calculate reverse percentages
	Calculate percentage change
	Work out compound interest and depreciation
Data	Estimate the mean from a grouped frequency table
	Find the modal group and location of the median from grouped data
	Interpret pie charts - more complex problems
	Draw and interpret a time series graphs and frequency polygons
Measures	Understand and use compound measures including speed, density and pressure
	Draw and interpret distance time graphs
	Calculate speed from a distance time graph
Calculations and accuracy	Use a calculator for complex calculations
	Use inequality notation to specify error intervals due to rounding
	Use error intervals for truncated values
	Find the upper and lower bounds of calculations
Surds	Simplify surds
	adding and subtracting surds
	Multiplying and dividing surds
Simplifying and substituting	Substitute numbers into more complex formue including brackets, fractions and square roots
	Rearrange formulae that include brackets, fractions and square roots
	Expand quadratics
	Factorise quadratics of the form $ax^2 + bx + c$ where a=1
	Recognise and factorise the difference of two squares
	Write a quadratic in completed square form (b= even number)
	Equate co-efficients in more complex identities
Assessment Week	Revision Lesson
	Advent Assessment
	Marking Lesson
Ratio	Solve non-standard questions when sharing a ratio given whole, part or difference
	Calculate maximum quantity problems
	Simplify two pairs of ratio when given a common term
	Use and understand proportional reasoning
	Calculate direct and inverse proportion algebraically
Trigonometry	Solve problems using SOHCAHTOA
Forming and solving equations	Solve linear simulatanteous equations
	Solve quadratics where a=1 using factorising
	Solve quadratics which need rearranging first
Angles	Angles in parallel lines
	Calculate interior and exterior angles in regular polygons

Area	Calculate the area and circumference of a circle
	Calculate the area of sectors and lengths of arcs
Probability	Complete and use two way tables
	Complete and use frequency trees
	Represent probabilities using Venn diagrams
	Identify regions on a Venn diagram using intersect, union and complement notation
	Use the product rule for counting
	Use a sample space diagram to find a probabilty of two mutually exclusive events occuring
	Use probbaility trees to calculate the probabilities of independent and dependant events
Assessment Week	Revision Lesson
	Lent Assessment
	Marking Lesson
Volume	Calculate the volume and surface areas of cylinders
	Calculate the volume and surface area of spheres and cones
	Calculate the volume of composite solids
Sequences, functions and graphs	Plotting linear graphs
	Use y = mx + c to identify parallel lines
	Find the equation of a line through two points or one point with a given gradient
	Estimate the solutions to simultaneous equations graphically
	Plot quadratic functions
	Recgonise key features of a quadratic curve
Inequalities	Repreesent inequalities on a number line
	Solve linear inequalities with an unknown on both sides
	Represent linear inequalities graphically
Constructions and Loci	Draw and recognise the nets of simple solids
	Draw 3D representations on isometric paper
	Draw and recognise the plans and elevations of 3D objects
	Construct a triangle given SAS,ASA,SSS and RHS
	Recognise and use similarity
	Use similarity to find missing lenghts
	Use the conditions for congruent triangles in formal geometric proofs
Assessment Week	Revision Lesson
	Pentecost Assessment
	Marking Lesson
Constructions and Loci	Draw and measure bearings
	Use map scales to find distances
	Construct the perpendicular bisector of a line and an angle
	Construct 30^0, 60^0 and 120^0 angles
	Solve loci problems