Revision 'Must Know' Checklist: Y8 Maths Lower Classes

Below is a checklist of everything you must know to be successful by the end of this year.

Number	Algebra	Geometry and Measures	Ratio and Proportion	Statistics and Probability
- Understand directed number in context and order directed numbers - Perform calculations that cross zero - Add directed numbers - Multiply fractions using diagrams - Multiply a fraction by an integer - Calculate the product of unit fractions - Calculate the product of any fractions - Divide an integer by a unit fraction - Divide using the reciprocal and a unit fraction - Multiply and divide improper and mixed fractions - Solve problems involving fraction including area problems - Add, subtract and multiply expressions with indices	- Work with coordinates in four quadrants - Identify and draw lines that are parallel to the axes - Recognise and use lines in the form y=kx - Draw and recognise graphs in the form y=x+a - Recognise and draw graphs with negative gradients - Link graphs to sequences - Use a table to plot a graph in the form y=mx+c - Form algebraic expressions from words - Expand a single bracket - Factorise into a single bracket - Expand and simplify multiple single brackets - Solve equations with brackets - Form and solve equations - Solve unknowns in multiple steps and build algebraic expressions from diagrams	- Use angle notation correctly Review angle rules - Identify equal angles on parallel lines - Identify co-interior angles on parallel lines - Recognise, draw, and measure different types of angles. Construct a triangle, given three sides, using a ruler and compass - Recognise different types of triangle and quadrilateral and to find missing angles. - Use and understand exterior and interior angles - Recognise line symmetry Review rotational symmetry - Reflect shapes in horizontal, vertical, and diagonal lines - Identify multiple lines of symmetry in regular shapes - Reflect shapes in named lines e.g., y = 2	- Use ratio notation to compare different amounts to each other - Express ratio in their simplest form - Understand the difference between ratio and proportion and use both to express relationships between quantities - Draw bar models to represent ratios and divide into a given ratio - Use bar models to solve problems when given a share of a ratio - Understand what is meant by direct proportion and solve direct proportion problems - Exchange between currencies and compare deals - Use and create conversion graphs, including currency - Understand the relationship between similar shapes	- Draw and interpret scatter graphs - Understand and describe linear correlation - Draw and use lines of best fit - Identify non-linear relationships - Identify different types of data - Read and interpret ungrouped frequency tables - Read and interpret grouped frequency tables - Represent grouped discrete data - Represent continuous data grouped into equal classes - Represent data in two-way tables - Find probabilities from two-way tables - Construct sample spaces for one or more events - Find probabilities from a sample space

• Multiply and divide expressions with indices • Understand and use the addition and subtraction laws of indices • Convert between key fractions, decimals, and percentages, including those over 100% • Calculate fractions, decimals, and percentages of amounts with or without a calculator • Calculate percentage increase and decrease using a multiplier • Express one number as a fraction or a percentage of another • Work with percentage change • Choose appropriate methods to solve percentage problems • Work with numbers greater than 1 in standard form • Write numbers between 0 and 1 in standard form • Compare and order numbers in standard form • Use a calculator to work with numbers in standard form	• Represent inequalities on a number line • Understand and solve simple inequalities • Generate sequences when given a rule in words • Generate a sequence given a simple algebraic rule • Find the rule for the nth term of a linear sequence	• Calculate the area of triangles and quadrilaterals, including compound shapes • Calculate the area of a trapezium, including compound shapes • Calculate area and perimeter of a circle with and without a calculator • Convert metric measures of length • Convert metric units of weight and capacity • Solve problems involving time and the calendar	• Draw and interpret scale diagrams • Interpret maps using scale factors and ratios	• Draw and interpret Venn diagrams • Find probabilities from Venn-diagrams • Interpret a sample space • Find greater/less than probabilities • Design a questionnaire Collect and organise data Know the different types of data • Represent data using pictograms and bar charts Compare discrete data using mode, median, mean and range • Represent data using pie charts • Draw and interpret line graphs • Collate data into a frequency and grouped frequency table Draw a frequency polygon • Choose appropriate ways to represent data • Choose the most appropriate average • Identify outliers • Compare distributions using averages and the range

• Round numbers to powers of 10 and one significant figure • Round numbers to a given number of decimal places • Estimate the answer to a calculation • Calculate using the order of operations • Calculate with money			