Revision 'Must Know' Checklist: Y8 Maths LA Classes

Glenthorne High School
Achievement for all

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 • Multiply and divide 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 • Represent inequalities on a number line	• 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 • Calculate the area of triangles and quadrilaterals, including compound shapes	• 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 scale diagrams	• 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 • Draw and interpret Venn diagrams

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