



YEAR 9 – checklist

Indices and standard form	😊	😐	😞
Use index laws to simplify expressions.			
Calculate combinations of powers, roots, fractions and brackets.			
Estimate answers to calculations.			
Understand numbers written in index form that are raised to a power.			
Understand negative and zero indices.			
Use powers of 10 and their prefixes.			
Write large and small numbers using standard form.			

Expressions and formulae	😊	😐	😞
Write and solve equations with fractions.			
Write and solve equations with the unknown on both sides.			
Use the priority of operations when substituting into algebraic expressions.			
Substitute values into expressions involving powers and roots.			
Write and use formulae.			
Substitute into formulae and then solve equations to find unknown values.			
Change the subject of a formula.			
Use the rules for indices for multiplying and dividing.			
Simplify expressions involving brackets.			
Factorise an expression by taking out an algebraic common factor.			
Multiply out double brackets and collect like terms.			

Dealing with data	😊	😐	😞
Identify sources of primary and secondary data.			
Choose a suitable sample size and what data to collect.			
Identify factors that may affect data collection and plan to reduce bias.			
Design and use data collection sheets and tables.			
Design a good questionnaire.			
Find the median from a frequency table.			
Estimate the mean from a large set of grouped data.			
Construct and use a line of best fit to estimate missing values.			
Identify and suggest reasons for outliers in data.			

Draw line graphs to represent grouped data.			
Draw back-to-back stem and leaf diagrams.			

Straight-line graphs	😊	😐	😞
Recognise when values are in direct proportion with or without a graph			
Plot graphs and read values to solve problems			
Plot a straight-line graph and work out its gradient			
Plot graphs of linear equations			
Write the equations of straight-line graphs in the form $y = mx + c$			

Percentages, decimals and fractions	😊	😐	😞
Change time to decimal hours			
Recall equivalent fractions, decimals and percentages			
Recognise recurring and terminating decimals			
Order fractions by converting them to decimals or equivalent fractions			
Express one number as a percentage of another when in different units			
Work out an amount decreased or increased by a percentage			
Use a multiplier to calculate amounts increased or decreased by a percentage			

Keywords

Index, indices, power, root, square root, cube root, estimate, prefix, evaluate, standard form, integer, equation, operations, solve, expand brackets, BIDMAS, substitution, formula, formulae, variables, subject, inverse, like terms, factorise, highest common factor (HCF), expression, quadratic, primary data, secondary data, population, sample, hypothesis, bias, random sample, frequency, discrete data, continuous data, averages, outlier, proportion, direct proportion, gradient, y-intercept, linear, origin, terminating decimal, recurring decimal, equivalent, interest, simple interest, multiplier

Useful revision websites:

<https://www.mymaths.co.uk/>

username: foresthill

password: FHSSE23

<https://vle.mathswatch.co.uk/vle>

will need to obtain individual login details from your teacher

<https://www.bbc.co.uk/bitesize/subjects/zqhs34j>