**Year 9 Revision List – Higher Paper**

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| **Algebra** | apply laws of indices |
| simplify an expressions |
| expanding single and double brackets |
| factorise expressions |
| substitution into formulae |
| change the subject of a formula |
| find and use the nth term of an arithmetic sequence |
| continue/explain geometric series |
| plot horizontal and vertical lines |
| plot linear lines from a table of values and plot quadratic graphs |
| application of y = mx+c to draw lines, gradient and y intercept |
| find midpoint between two coordinates |
| **Data** | use averages to compare data sets |
| calculate the mean of frequency table and a grouped frequency table |
| list combinations of sets systematically: tables, grids, Venn diagrams |
| apply probabilities of an exhaustive set of outcomes sum to 1 |
| experimental probability: relative frequency |
| use of frequency trees |
| use tree diagrams |
| plot and interpret pie charts |
| construct and interpret stem and leaf diagrams include back to back |
| plot and interpret scatter graphs and box plots |
| **Number** | calculate with negative numbers + - x ÷ |
| use order of operations BIDMAS |
| apply calculator skills: powers, roots, brackets, sign change, fraction |
| round solutions to a given number of d.p./s.f. |
| estimation and upper and lower bounds |
| find product of prime factors, HCF, LCM |
| simplify ratios, share in a ratio |
| use direct proportion in real life contexts: recipes, best buys |
| plot conversion graphs |
| convert and order fractions, decimals, percentages |
| calculate fractions of amounts including decimals and percentages of amounts |
| add/subtract/multiply/divide fractions |
| find reciprocals |
| laws of indices |
| standard form |
| **Shape** | calculate the area of compound shapes, parallelogram, trapezium, circle |
| calculate circumference of circle |
| use angle properties: point, line, triangle, vertically opposite |
| calculate unknown angles on parallel lines - giving reasons |
| calculate angles in polygons - interior and exterior |
| plot bearings |
| speed/dist/time calculations including converting units of speed |
| plot and interpret distance time graphs |
| calculate volume and surface area: cuboid/triangular prism/prism/ cylinder |
| Capacity problems |
| nets, plans and elevations, isometric perspectives |