

## Year 10 Higher Curriculum

| Term | Topic  | Details   |
|------|--|---|
| 1    | Accuracy & bounds, Perimeter, area & 3D forms  | Area and perimeter, Units, accuracy, bounds, error intervals and truncation (including appropriate degree of accuracy and reasoning), Volume and SA of prisms, Circles, sectors and arcs, Cylinders, spheres, pyramids and cones                |
|      | Solving quadratics and simultaneous equations  | Review, linear equations, expanding and factorising, Solving quadratics – factorising, formula and completing square (roots and turning points), Setting up and solving linear simultaneous equations, Solving quadratic simultaneous equations |
| 2    | Solving inequalities                           | Linear and quadratic inequalities, number lines and set notation  |
|      | Fractions, decimals, percentages and ratio     | f.d.p review, recurring decimals to exact fractions, ratio review   |
|      | Probability                                    | Probability, Combinations and permutations, Sample space, Experimental and relative frequency, Venn diagrams, Set Notation, Frequency trees, Probability tree diagrams, Mutually exclusive, Independent and conditional                         |
| 3    | Multiplicative reasoning and compound measures | Review multipliers and compound interest, Growth and decay, Compound measures including SDT, DMV, PFA and others, Rates of change, Direct and inverse proportional reasoning, Capture, recapture  |
|      | Congruence and geometric proof                 | Congruence and geometric proof  |
| 4    | Similarity                                     | Similarity and geometric proof, Area and volume similarity  |
|      | Further trigonometry                           | Review basic trig, Trig graphs and exact values, Area of any triangle, Sine rule, Cosine rule, 3-D problems   |
| 5    | Data   | Sampling including stratified, Stem & leaf diagrams (1 lesson), Cumulative frequency, Median, Quartiles and IQR, Box Plots and comparing in context, Histograms including   |

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|---|----------------------------|---|
|   |                            | median, Comparing data sets including averages and range in context   |
|   | Further algebra and graphs | Review xy tables and plotting graphs, Solve simultaneous equations graphically, linear and quadratic, Sketching graphs of quadratic functions, Graphical inequalities (regions), Use sketch to solve quadratic inequalities, Graphs of cubic functions and others |
| 6 | Sequences                  | Generating sequences, nth term of linear and quadratic sequences, arithmetic, geometric and Fibonacci sequences and algebraic representations   |
|   | Growth and decay           | Decimal multipliers, Compound growth and decay, Graphs of growth and decay, Reverse compound change   |

Each topic is tested through low stakes testing on a regular basis and students receive feedback and the opportunity to improve.

There are 3 main assessment points in the year.