| Unit Number | Unit Name | Year 9 Topics Covered | Deeper Thinking |
| :---: | :---: | :---: | :---: |
| 1 | Advanced Decimals | Use a calculator for complex calculations Estimation of complex calculations |  |
| 2 | Advanced Linear Solving | Solve linear simultaneous equations |  |
| 3 | Further Quadratics | Rearrange formula <br> Factorise and solve quadratics of the form $\mathrm{ax}^{2}+\mathrm{bx}+\mathrm{c}=0$ where $\mathrm{a}=1$ | Include fractions, square roots etc. <br> $a>1$; solve quadratics which need rearranging first |
| 4 | Further Graphing | Use $\mathrm{y}=\mathrm{mx}+\mathrm{c}$ to identify parallel lines <br> Find the equation of a line through two points or one point with a given gradient <br> Estimate the solutions to simultaneous equations graphically <br> Plot quadratic functions <br> Label key parts of a quadratic sketch <br> Recognise reciprocal, exponential and cubic graphs <br> Recognise and use sequences of triangular, square, quadratic and cube numbers | Use $y=m x+c$ to identify perpendicular lines <br> Find the equation of a line through one point and a given perpendicular gradient <br> Calculate the nth term of a quadratic sequence |
| 5 | Proportion | Calculate direct and inverse proportion non-algebraically (ratio tables) Calculate direct and inverse proportion algebraically | Calculate direct and inverse proportion with squares, cubes and roots |
| 6 | Trigonometry | Use SOHCAHTOA to calculate the missing angles in right angled triangles Use SOHCAHTOA to calculate the missing sides in right angled triangles | 3D Trigonometry |
| 7 | Congruence and Similarity | Recognise and use congruence and similarity <br> Use the conditions for congruent triangles in formal geometric proofs |  |


| 8 | Volume | Volume and surface area of cubes and cuboids <br> Volume and surface area of triangular prisms and other prisms <br> Volume and surface areas of cylinders <br> Volume and surface area of spheres and cones <br> Volume of composite solids | Convert between metric units of area and volume |
| :---: | :---: | :---: | :---: |
| 9 | Constructions | Draw and recognise the nets of simple solids <br> Draw and recognise the plans and elevations of 3D objects <br> Use the standard conventions for labelling sides and angles in triangles <br> Construct a triangle given SAS or ASA <br> Construct a triangle given SSS <br> Draw and measure bearings <br> Use map scales to find distances <br> Construct the perpendicular bisector of a line <br> Construct the bisector of an angle <br> Construct $30^{\circ}, 60^{\circ}$ and $120^{\circ}$ angles <br> Solve loci problems |  |
| 10 | Compound Measures | Understand and use compound measures including speed, density and pressure <br> Draw and interpret distance time graphs <br> Calculate speed from a distance time graph <br> Rates and change |  |

