

Number	<p>Use index notation, including the use of negative integer powers</p> <p>Estimate the answer to square roots &amp; cube roots e.g.: <math>\sqrt{70}</math> must lie between 8 and 9</p> <p>Calculate the LCM and HCF of a number when given the prime factorisation of each number</p> <p>Calculate the upper and lower bounds of a number to a given degree of accuracy</p> <p>Use upper and lower bounds for addition and subtraction calculations</p> <p>Estimate answers to calculations with the use of rounding numbers</p> <p>Multiply &amp; divide integers and decimals by a number between 0-1</p> <p>Add, subtract, multiply and divide mixed numbers</p>
Algebra	<p>Construct and solve linear equations that involve fractions and fractional answers</p> <p>Construct and solve linear inequalities</p> <p>Expand and factorise single and double brackets, including difference of two squares</p> <p>Substitute fractional and negative values into expressions</p> <p>Rearrange formulae and use to solve problems</p> <p>Calculate the equation of a line in the form <math>y = mx + c</math></p>
Ratio & Proportion	<p>Calculate missing dimensions in similar shapes</p> <p>Calculate compound interest and depreciation after 2-5 years</p> <p>Write, simplify and divide a ratio given situations</p> <p>Convert between currencies</p> <p>Interpret and solve best buy deals</p>
Geometry	<p>Calculate the area and arc length of a sector</p> <p>Calculate the length of a line given two coordinates</p> <p>Define a geometric progression and continue a sequence</p> <p>Use and apply trigonometry to right-angled triangle, including worded problems</p> <p>Identify roots and turning points on a quadratic graph</p> <p>Calculate volumes of 3D shapes and prisms</p> <p>Transform shapes by reflecting, rotating, enlarging and translating (using column vectors)</p> <p>Use constructions to solve loci problems</p>
Statistics	<p>Construct and interpret pie charts</p> <p>Construct and interpret composite bar charts</p> <p>Display data with an appropriate graph</p> <p>Construct and interpret real-life graphs (including speed/distance/velocity graphs)</p>
Probability	<p>Write probabilities using fractions, percentages or decimals</p> <p>Use tree diagrams to calculate the probabilities of two dependant events</p> <p>Understand and use experimental and theoretical probability to calculate estimated outcomes</p> <p>Work out probabilities from Venn diagrams to represent real-life situations and also 'abstract' sets of numbers/values</p>