



Year 11

- Use the four operations with mixed numbers applied to a variety of contexts
- Solve ratio and proportion problems in a variety of contexts
- Solve reverse percentage problems
- Simplify and manipulate algebraic expressions
- Rearrange the subject of a formula, including those with division
- Construct and solve linear equations and simple quadratic equations
- Apply formulae to solve a variety of problems
- Solve linear inequalities and represent the solution using set notation and graphically
- Plot linear, quadratic and cubic graphs
- Apply right-angled trigonometry and Pythagoras' Theorem to a variety of situations

Year 10

- Apply the four operations to mixed numbers
- Factorise expressions into single or double brackets
- Plot, interpret and calculate with graphs involving distance, speed and acceleration
- Rearrange the subject of a simple formula
- Substitute and evaluate positive and negative values in formulae
- Identify and use alternate, corresponding and co-interior angles on parallel lines
- Transform shapes by enlargement, reflection, rotation or translation
- Apply the trigonometric ratios to find angles and lengths in right angled triangles
- Calculate area and perimeter of composite shapes made from circles
- Calculate surface area and volume of prisms including cylinders

Year 9

- Find the HCF and LCM of two numbers using product of prime factors
- Write numbers in standard form
- Increase/decrease quantities by a percentage
- Understand proportion and ratio in best-buy and recipe situations
- Form and solve linear equations
- Simplify algebraic expressions including those with single or double brackets
- Use the form $y = mx + c$ to draw linear graphs and determine values of m and c from a graph
- Calculate volume and surface area of pyramids and prisms
- Find lengths in similar shapes
- Calculate the probability of independent and dependent events using tree diagrams



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Pathway 5

Year 8

- Find percentage of an amount including using a multiplier
- Add and subtract fractions with different denominators
- Divide a quantity into a given ratio and apply ratio to real contexts
- Rearrange the subject of a formula
- Substitute integers and non-integers into formulae
- Solve linear equations with fractions
- Calculate the area and perimeter of compound shapes
- Calculate the volume of cuboids, cubes and triangular prisms
- Use Pythagoras' Theorem to find lengths in right-angled triangles
- Calculate probability of two events by listing outcomes

Year 7

- Multiply and divide 2 and 3 digit numbers
- Find fractions and percentages of quantities
- Convert between fractions, decimals and percentages
- Relate fractions to ratios and simplify ratios
- Simplify expressions by collecting like terms
- Solve two step linear equations
- Substitute positive and negative values into expressions
- Find angles around a point, on a line, in a triangle/quadrilateral and vertically opposite angles
- Calculate area and perimeter of 2d shapes including triangles and quadrilaterals
- Find probability of combined events and use set notation and Venn Diagrams