



Year 11

- Calculate and manipulate with fractional and negative indices including standard form
- Simplify and manipulate algebraic expressions including those with fractions
- Solve linear simultaneous equations
- Rearrange the subject of a formula when the subject appears more than once
- Construct and solve quadratic equations in a variety of situations
- Apply formulae to solve numerical problems
- Solve linear inequalities and represent the solution using set notation and graphically
- Plot linear, quadratic, cubic and reciprocal graphs
- Apply right-angled trigonometry to a variety of situations
- Calculate probabilities from 2 combined events

Year 10

- Use index laws including negative indices and standard form
- Set up, solve and interpret the answers in growth and decay problems, including compound interest
- Factorise quadratic expressions of the form $x^2 + bx + c$, including difference of two squares
- Plot, interpret and calculate with graphs involving distance, speed and acceleration
- Apply the standard circle theorems
- Use alternate, corresponding and co-interior angles on parallel lines and angles in polygons
- Transform shapes by enlargement, reflection, rotation or translation
- Apply Pythagoras' Theorem to a variety of situations
- Calculate arc lengths and area of sectors
- Calculate area and perimeter of compound shapes made from circles

Year 9

- Find the HCF and LCM of two numbers using product of prime factors
- Write a number in standard form
- Calculate percentage change and solve reverse percentage problems
- Form and solve linear equations
- Simplify algebraic expressions including those with single or double brackets
- Use $y = mx + c$ to identify parallel lines and find the equation of the line through 2 points
- Know and apply the trigonometric ratios to find angles and lengths in right angled triangles
- 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 6

Year 8

- Find percentage of an amount including using a multiplier
- Perform all 4 operations with fractions
- Rearrange the subject of a formula
- Substitute decimals and fractions into formulae
- Solve linear equations with fractions
- Use the form $y = mx + c$ to draw linear graphs and determine values of m and c from a graph
- Know and apply the formula for Pythagoras' theorem
- Calculate the area and perimeter of compound shapes
- Calculate the volume of prisms including cylinders
- Calculate probabilities from 2 independent events using tree diagrams

Year 7

- Estimate roots and powers and express numbers in index form
- Add and subtract fractions with different denominators
- Convert between fractions, decimals and percentages
- Expand and simplify expressions by multiplying out single brackets
- Solve linear equations including those with division and unknowns on both sides
- Substitute positive and negative integers into expressions
- Find the n th term of a linear sequence and generate terms
- 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