

Higher Mathematics Five Year Learning Journey



WEST GRANTHAM

Church of England Secondary Academy

- A-level/BTEC/Other L3 at College or Sixth Form
- GCSE/Foundation Learning
- Apprenticeship
- Employment with Training

- Histograms
- Manipulating quadratic functions
- Vectors and Scalars
- Bespoke revision
- Manipulating surds
- Geometric progressions
- Quadratic inequalities
- Exponential and trigonometric functions

Year 11

- Trigonometry
- Powers, roots and surds
- Solving equations
- Enlargements
- Algebraic fractions
- Exploring proportionality.
- Quadratic sequences
- Graphical inequalities
- Volumes of spheres
- Circle theorems

- Exponential graphs
- Recurring decimals
- Quadratic equations
- Venn diagrams



Year 10

- Solving linear simultaneous equations
- Probability—tree diagrams
- Sequences
- Solving linear inequalities
- Congruence
- Quadratic and cubic graphs

$y \propto \frac{1}{x}$
 $y = k\left(\frac{1}{x}\right)$
 $y = \frac{k}{x}$, for a constant k

radius r
 $C = 2\pi r$
 $A = \pi r^2$

- Quadratics
- Direct and inverse proportion
- Indices, standard form and rounding.
- Constructions and loci

Year 9

- Circumference and area of circles
- Compound shapes
- Graphs
- Venn diagrams and frequency trees
- Histograms and scatter diagrams

- Investigating angles
- Percentage change
- Solving linear equations

What is the n th term?
 1, 7, 13, 19, 25,
 $6n - 5$

percentage	fraction	decimal
30%	$\frac{3}{10}$	0.3

↑
 To go from a fraction to a percentage we can convert to a decimal first
 $\frac{3}{5} \rightarrow 0.6 \rightarrow 60\%$

- Fractions, decimals and percentages
- Problems involving ratio
- Finding the n th term
- Enlargements and scales
- Plans, elevations, bearings
- Introduction to probability
- Algebra—simplifying and factorising

- Highest common factor
- Lowest common multiple
- Standard form

$n < 2$

- Measuring shape
- Investigating angles
- Calculating with FDP
- Solving equations
- Calculating area and volume
- graph skills
- Presenting data
- Mode, Medium, mean and range

Year 8

- Introduction to algebra
- Fractions decimals and percentages
- Sequences and patterns

- Factors and multiples
- Primes, powers and patterns
- Calculating with integers and decimals
- Place value
- Rounding and estimating
- Shape

Year 7

Declarative I know that... Procedural I know how... Conditional I know when...