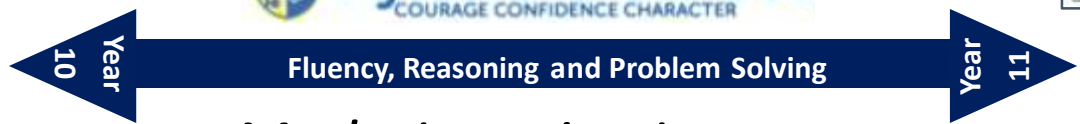


- Character strengths
- Cross Curricular Links
- Statistics
- Geometry
- Number
- Algebra
- Ratio and Proportion
- Probability



Maths Learning Journey

Independent Practice
Summer Break

YEAR 11

TERM 6

Types of Number Sequences **Indices & Roots**

Manipulating Expressions

- Product of primes
- Find HCF and LCM
- Arithmetic and geometric sequences
- Non-linear sequences
- n^{th} term of a linear sequence
- Powers and roots
- Standard form
- Indices
- Simplify algebraic expressions
- Add, subtract, multiply & divide algebraic fractions
- Form and solve equations and inequalities with fractions

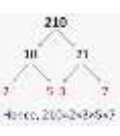
Curiosity and Compassion

Non Calculator Methods

Collecting, Representing & Interpreting Data

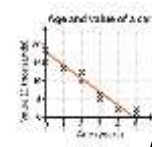
TERM 5

Probability



$$\frac{x}{3} \times \frac{x-3}{x+2} = \frac{(x)(x-3)}{3(x+2)}$$

How might you prove $\sqrt{2}$ is an irrational number?



- Exact answers (using pi and trig values)
- Rational and irrational numbers
- Estimation
- Calculations with bounds
- Using calculations to find other answers
- Working with money/financial maths
- Multi step number problems

- Populations and samples
- Stratified sampling
- Frequency tables and polygons
- Histograms
- Cumulative frequency diagrams
- Box plots
- Scatter graphs

Curiosity and Compassion

TERM 4

Vectors

Percentages and Interest

Simple Probabilities
Estimate probabilities
Venn diagrams
Sample space diagrams
Tree diagrams

Ratio and fractions

- Link ratios and fractions
- Share in a given ratio
- Link ratios and graphs
- Problems with currency conversion
- Use and interpret 1:n and n:1
- Solve best buy problems

- Understand and represent vector
- Addition and subtraction of vectors
- Parallel vectors
- Use vectors to construct geometric arguments and proof

- Using fractions, decimals and percentages
- Increase and decrease by a percentage
- Simple and compound interest
- Reverse percentages
- Problems involving growth and decay

Curiosity and Compassion

Working with Circles

Angles and Bearings

TERM 3

Reflect and Embed SOW

Where else in mathematics do we use Pi?

- Calculate arc length & area of a sector
- Circle Theorems
- Volume of a cylinder and cone
- Surface area of a cylinder and cone
- Volume and surface area of a sphere
- Area and volume problems with similar shapes

- Measure, read and draw bearings
- Calculate bearings using angle rules
- Solve bearings problems using Pythagoras and Trigonometry

Curiosity and Compassion

TERM 2

Congruence, Similarity and Enlargement

Trigonometry

Take a look at an airport runway. What is painted on the tarmac at either end?

- Enlarge by a positive and fractional scale factor
- Identify missing sides and angles in similar shapes
- Using parallel lines to find missing angles
- Establish a pair of triangles are similar
- Understand and use conditions for congruence

- Pythagoras Theorem
- Use sine, cosine and tangent ratio to find angles and sides
- the appropriate method for right angles triangles
- Working with exact values

Curiosity and Compassion

Simultaneous Equations

Representing Solutions of Equations & Inequalities

TERM 1

- Understand equations have more than one solution
- Solve a pair of equations by substituting a variable
- Solve simultaneous equations by substitution
- Solve simultaneous equations by elimination
- Solve simultaneous equations with adjusting equations
- Form and solve simultaneous equations

- Form and solve equations
- Form and solve inequalities
- Inequalities on a number line
- Draw linear graphs and use to solve pairs of equations
- Solve quadratic equations

CROSS-CURRICULAR LINKS



TRIPS UKMT

