Mathematics KS4: Year 10 Sets 1 & 2

CARDINAL NEWMAN CATHOLIC SCHOOL

Congruence & Similarity
- Triangle
- Lengths
- Areas
- Volumes

Vectors
- Four operations on Vectors
- Vector proofs

Trigonometry 2
- SINE rule
- COSINE rule

Circle Geometry
- All the Circle Theorems

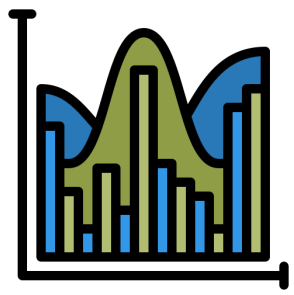
Revise Angles and Shapes
- Angle rules points, lines triangles, parallel lines
- Polygon angles
- Bearings

Revise Ratio and Proportion
- Split into parts
- Express as a fraction
- ratio problems with fractions

Direct & Indirect Proportio
- Form and interpret Equations

Scale Drawing & Accurate Drawing
Drawings and 3D Shapes

UMMER 3:2



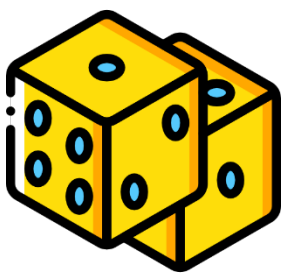
Graphs 2
- Plot cubic, reciprocal
- Plot trigonometric
- Plot Equations of Circle

Quadratic Equations
- Solve algebraically
- Complete the square
- Use Quadratic Formula

SUMMER 3:1

Probability
- Frequency Trees
- Expected Frequencies
- Mutually Exclusive
- Tree Diagrams
- Venn Diagrams

Constructions and Loci
- Bisect a line, angle
- Perpendicular bisector



Revise Indices
- Laws of Indices
- Fractional
- Negative

Revise Standard Form & Number
- LCM and HCF
- Convert to St form & Vice Versa
- St Form calculations

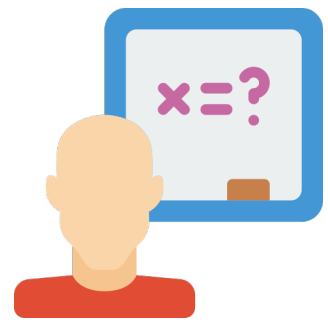
SPRING 2:2

Surds
- Simplify
- Expand brackets
- Rationalise

Revise Graphs 1
- Plot linear graphs
- y = mx+c

Inequalities & Regions
- On a number line
- show on a graph

Real Life Graphs
- Distance Time Graphs
- Speed Time Graphs



Factorise Quadratics

Linear Equations & Inequalities
- Solve one step, two step
- Brackets

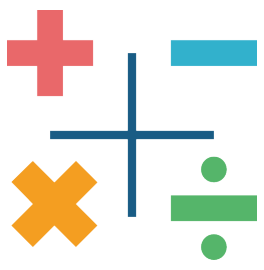
Volumes and Surface Area of Prism, Pyramids, Spheres, Cones.

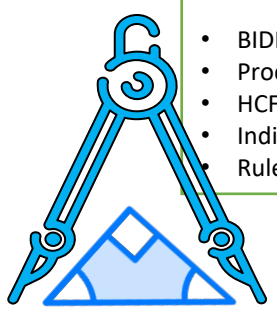
SPRING 2:1

Revise - Area and Perimeter
- Triangles, Trapezia, Parallelogram
- Circles
- Circumference

Ratio and Proportion
- Express as a fraction,
- ratio problems with fractions

AUTUMN 1:2





Number 1
- BIDMAS
- Product of prime factors
- HCF, LCM
- Indices
- Rules of Indices

Simultaneous Equations
- Algebraically solve them
- Graphically solve them

Cumulative Frequency
- Boxplots
- Histograms

Scatter Graphs
- Draw and interpret
- Lines of Best Fit
- Estimate from graph

AUTUMN 1:1

Revision – Algebraic Manipulation
- Collect like terms
- Expand and factorise
- Expand double ad triple brackets

Standard From
- Change from ordinary numbers to st form and vice versa
- St Form Calculations

Revise Pythagoras and Trigonometry 1
- Sides in a Triangle
- Angles
- Sides

OUR LEARNING JOURNEY

Mathematics KS4: Year 10 Set 3/4

CARDINAL NEWMAN CATHOLIC SCHOOL

Rounding Estimating & Bounds
- Approximation to calculations
- Upper and Lower bounds
- Error Intervals
- Solve Problems

Collecting and Recording Data
- Sampling
- two way tables
- criticize questionnaire

Revise Representing Data
- Cumulative Frequency
- Histograms
- Box Plots

Congruence & Similarity
- Triangle
- Lengths
- Areas
- Volumes

SUMMER 3:2

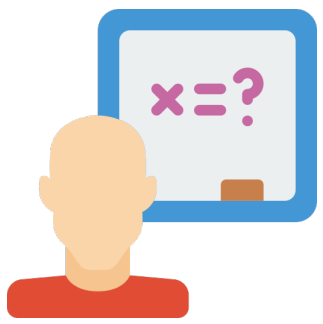
Simultaneous Equations
- Solve algebraically
- using a graph.

Revise Linear Equations & Inequalities
- Solve Equations

SUMMER 3:1

Accurate Drawing and Scale Drawing and 3D Shapes

Graphs 2
- Plot cubic, reciprocal
- Plot trigonometric
- Plot Equations of Circle



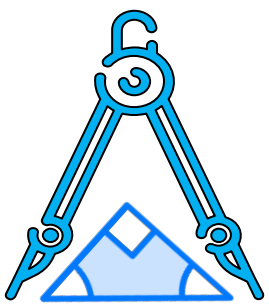
Trigonometry
- Trig Ratios
- Find angle
- Find side.
- Know exact Trig values

SPRING 2:2

Probability
- Frequency Trees
- Expected Frequencies
- Mutually Exclusive
- Tree Diagrams
- Venn Diagrams

Revise Inequalities & Graphs 1
- Plot linear graphs
- y = mx+c
- Regions On graph

Inequalities & Regions - On a number line, and show on a graph



Real Life Graphs Distance Time Graphs, Speed Time Graphs

Revise Graphs 1
- Plot linear graphs
- y = mx+c

Constructions and Loci
- Bisect a line, angle
- perpendicular bisector

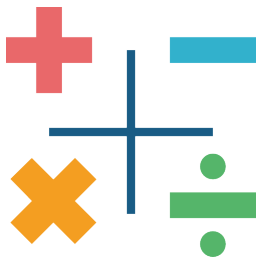
SPRING 2:1

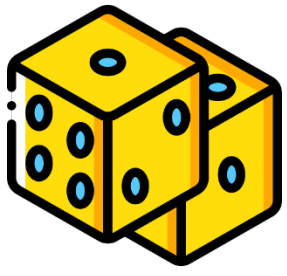
Surds
- Simplify
- Expand brackets
- Rationalise

Revise Indices
- Rules of indices

Revise Standard Form
- Convert
- Calculations

AUTUMN 1:2





AUTUMN 1:1

Linear Equations & Inequalities
- Solve one step, two step
- Brackets
- Number line

Formulae
- Substitute into Formula
- Re-arrange Formulae

Revise - Area and Perimeter
- Triangles, Trapezia, Parallelogram
- Circles
- Circumference

Volumes and Surface Area of Prism, Pyramids, Spheres, Cones.

Revise Angles and Shapes
- Angle rules for points, lines triangles
- Angles in parallel lines
- Polygon angles
- Bearings

Factorising Quadratics

Revision – Algebraic Manipulation
- Collect like terms
- Expand and factorise
- Expand double ad triple brackets

OUR LEARNING JOURNEY

Mathematics KS4: Year 10 Set 4

CARDINAL NEWMAN CATHOLIC SCHOOL

Revision – Algebraic Manipulation
- Collect like terms
- Expand and factorise
- Expand double ad triple brackets

Rounding Estimating & Bounds
- Approximation to calculations
- Upper and Lower bounds
- Error Intervals
- Solve Problems

Surds
- Simplify
- Expand brackets
- Rationalise

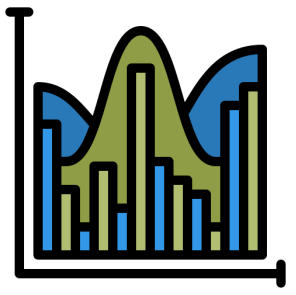
SUMMER 3:2

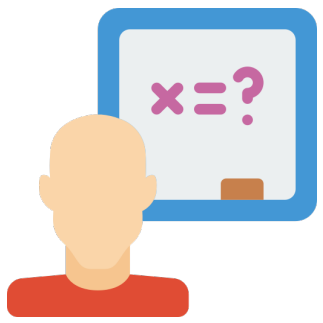
Indices
- Powers of 2, 3, 5
- Use rules of indices
- Negative indices

Collecting and Recording Data
- Sampling
- two way tables
- criticize questionnaire

Trigonometry
- Lengths
- angles in triangles

Revise Pythagoras
- Square numbers
- Finding length





Revise Transformations
- Reflection
- Rotation
- Translation
- Enlargement

Congruence & Similarity
- Triangles
- Lengths
- Areas
- Volumes

SUMMER 3:1

Revise linear Equations

Simultaneous Equations
- Solve algebraically
- using a graph.

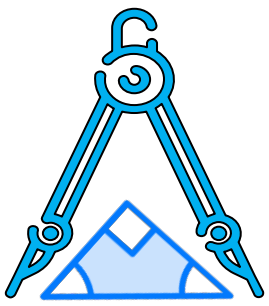
Graphs 2
- Plot quadratic
- Cubic
- reciprocal

Revise Graphs 1
- Co-ordinates
- Plot linear graphs

Probability
- List Outcomes
- Frequency Trees
- Expected
- Frequencies,
- Mutually Exclusive,
- Tree Diagrams
- Venn Diagrams

SPRING 2:2

Constructions and Loci
- Bisect a line & angle
- perpendicular bisector



Accurate Drawing and Scale Drawing

Rates of Change
- Speed
- Speed from graph
- Rates of Pay
- Pressure, Density

Real Life Graphs
- Distance Time Graphs
- Speed Time Graphs

SPRING 2:1

Revise Graphs 1
- Plot linear graphs
- y = mx+c

Ratio and Proportion – Express as a fraction, ratio problems with fractions

AUTUMN 1:2

Revise Ratio 1
- Use ratio notation
- Simplify ratios
- Ratios as fractions

Fractions 3
- Simplify/Equivalent Fractions
- Change between them
- Fraction of amount

Revision – Fractions and Decimals
- Order decimals and fractions
- Four operations

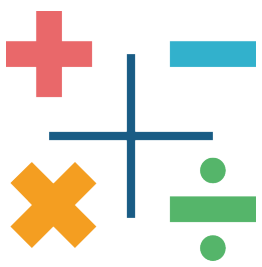
AUTUMN 1:1

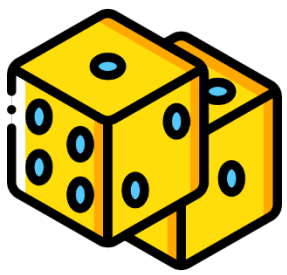
Revise - Area and Perimeter
- Triangles, Trapezia, Parallelogram
- **Circles**
- Circumference

Volumes and Surface Area
- Prisms
- Cylinder

Revise Linear Equations then Linear Inequalities
- Solve one step
- Solve two step
- Brackets
- Number line

Algebraic Manipulation
- Collect like terms
- Expand and factorise
- Expand double ad triple brackets

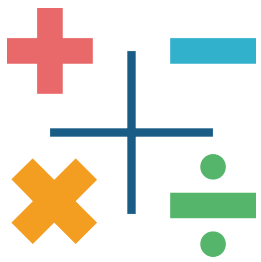


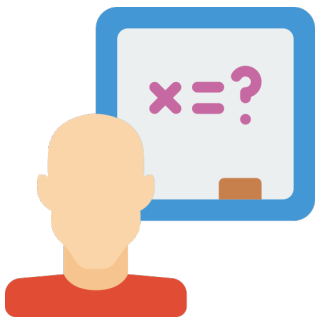


OUR LEARNING JOURNEY

Mathematics KS4: Year 11 Sets 1 & 2

CARDINAL NEWMAN CATHOLIC SCHOOL





SUMMER 3:2

SUMMER 3:1

GCSE Maths exam

SPRING 2:2

Revision
Geometry

Revision
Statistics
Probability

Revision
Algebra skills

Revision
Number topics
Ratio & proportion

SPRING 2:1

Mock Exams

Equation of a Tangent – Equation of a circle, Gradient between two points, Find equation of tangent to circle.

AUTUMN 1:2

- **Algebraic Fractions**
- **Proof**
- **Simplify algebraic Fractions**

- **Transformation of Graphs**
- **Trigonometric Quadratic and Cubic graphs**

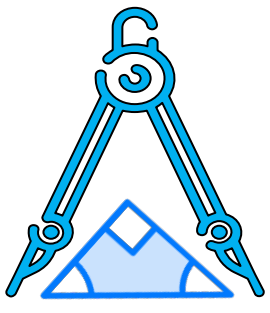
Functions- Inverse Functions, Composite Functions

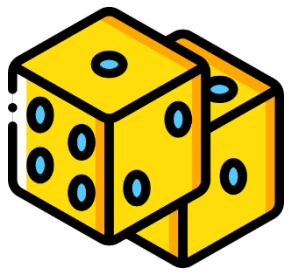
AUTUMN 1:1

Iteration Triala and Improvement, Re-arrange equations

Simultaneous Equations 2- Quadratic and linear equations

Revision – Simultaneous Equations and Quadratic Equations

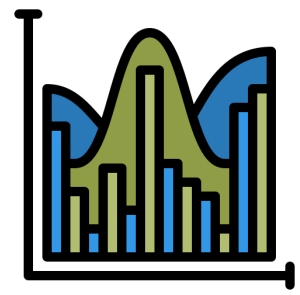


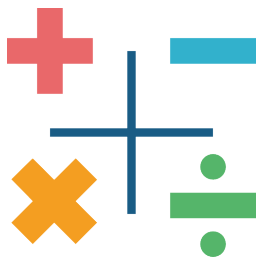


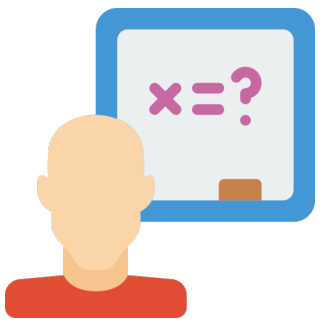
OUR LEARNING JOURNEY

Mathematics KS4: Year 11 Set 3

CARDINAL NEWMAN CATHOLIC SCHOOL







SUMMER 3:2

SUMMER 3:1

GCSE Maths exam

SPRING 2:2

Revision
Geometry

Revision
Statistics
Probability

Revision
Algebra skills

Revision
Number topics
Ratio & proportion

SPRING 2:1

Mock Exams

Exam preparation
Exam questions practise & key questions

AUTUMN 1:2

Formulae
Substitute
Re-arrange
Interpret simple expressions as functions

Revision – Ratio & proportion

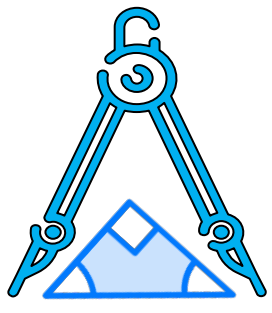
Revise -Algebraic Manipulation
- Collect like terms
- Expand and factorise
- Expand double brackets

AUTUMN 1:1

Revise Factorising Quadratics

Vectors
- Four operations on column vectors
- Vector proofs

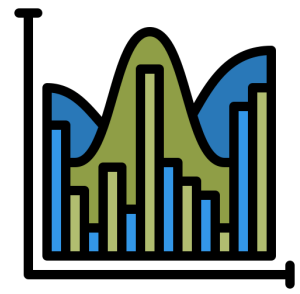
Revision – Pythagoras and Trigonometry 1

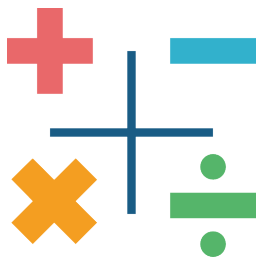


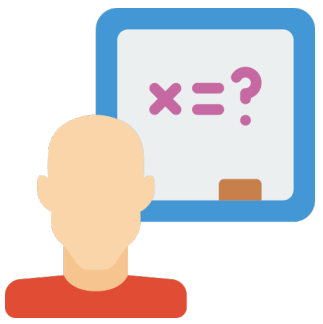
OUR LEARNING JOURNEY

Mathematics KS4: Year 11 Set 4

CARDINAL NEWMAN CATHOLIC SCHOOL







AUTUMN 1:1

Revise -Algebraic Manipulation
- Collect like terms
- Expand and factorise
- Expand double brackets

Revision – Ratio & proportion

Revision- Angles & shapes
- Perimeter
- Area
- Angles

AUTUMN 1:2

Exam preparation Exam questions practise & key questions

Mock Exams

SPRING 2:1

Revision Number topics Ratio & proportion

Revision Algebra skills

SPRING 2:2

Revision Geometry

Revision Statistics Probability

SUMMER 3:1

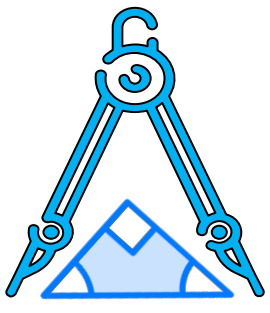
GCSE Maths exam

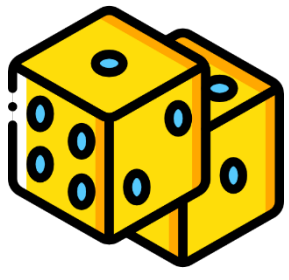
SUMMER 3:2

Vectors
- Four operations on column vectors
- Vector proofs

Rounding Estimating
- Approximation to calculations
- Error Intervals

Revision – Fractions, decimals & percentages





OUR LEARNING JOURNEY