



Year 10 Information - Maths

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	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 7	STATISTICS: Analysing and Displaying Data: Calculate MMMR (mode, modal class & range from frequency tables), compare sets of data using average and range. Draw bar charts (dual and compound), line graphs, pictograms. Work with grouped data.	ALGEBRA: Expressions, Functions and Formulae: Understand simple functions. Collect like terms. Expand brackets. Construct expressions. Substitute into formulae. Write and identify formulae.	NUMBER: Fractions: Compare and simplify fractions. Add & subtract fractions. Find fractions of amounts. Write numbers as fractions of others. Work with percentages. Convert between FDP. Find percentages of amounts. Write numbers as percentages of another.	RATIO & PROPORTION: Ratio and Proportion: Use the unitary method to solve direct proportion problems. Write and simplify ratio. Divide in a given ratio. Use ratios and measures. Links between ratio, fractions and percentages.	GEOMETRY: Lines and Angles: Label angles, lines and shapes. Identify angle, side and symmetry properties in triangles. Use a protractor. Estimate angles. Construct triangles. Triangle angle problems. Rules for angles on straight lines, around a point & vertically opposite. Angles in quadrilaterals. Exterior angle rules.	GEOMETRY: Transformations: Understand congruent and similar shapes. Use and identify scale factors for enlargements. Recognise line and rotational symmetry in 2D and some 3D shapes. Carry out reflections in a mirror line and on a coordinate grid. Carry out rotations on a coordinate grid. Translate 2D shapes. Combine transformations.
	NUMBER: Number Skills: BIDMAS. Multiply and divide by powers of 10. Pen and paper methods for 4 ops. Rounding to nearest whole number, 10, 100, 1000 & estimate calculations. Time and money problems. Work with negative numbers (4 ops and ordering). Identify factors, multiples and primes, square and triangle number.	GEOMETRY: Decimals and Measures: Measure and draw lines to the nearest mm. Round to 1dp. Estimate and approximate using appropriate units. Unit conversion problems and comparisons. Read scales. Read and plot coordinates in 4 quads. 4 ops with decimals mentally and on paper. Find areas and perimeters of triangles and rectangles.	STATISTICS: Probability: Use appropriate probability words. Understand the probability scale. List outcomes. Calculate probabilities of equally likely events. Probability of A or B happening & probability of A not happening. Experimental probability and expectations.		ALGEBRA: Sequences and Graphs: Term to term rules. How sequences appear in real life. Midpoint of a line segment. Describe non-linear sequences and more complex sequences. Find starting value and common difference in an arithmetic sequence. Recognise and plot graphs parallel to the axes and the graphs of $y = x$ and $y = -x$. Find the nth term of a sequence.	
Year 8	NUMBER: Number: Mental and paper methods for 4 ops. Money problems. Estimation. 4 ops with negative numbers. Calculate with powers and roots including brackets. Use index notation. Estimate the values of roots.	ALGEBRA: Expressions and Equations: Simplify algebraic powers. Substitute into expressions involving powers. Expand, factorise and simplify expressions.	RATIO & PROPORTION: Decimals and Ratio: Rounding integers and decimals. Use $<$ and $>$ appropriately for decimals. Write numbers in decimal amounts of millions. Multiply and divide decimals by 0.1 and 0.01. 4 ops with decimals. Use ratio involving decimals.	NUMBER: Calculations with Fractions: Add and subtract fractions with any denominators. Multiply and divide fractions. Find reciprocals of numbers. Write numbers as fractions of each other. 4 ops with mixed numbers.	ALGEBRA: Straight Line Graphs: Understanding when values are in direct proportion. Find the gradient of a graph. Plot graphs from equations and vice versa. Find the midpoint of a line segment.	STATISTICS: Statistics, Charts and Graphs: Draw and interpret pie charts. Draw and interpret two-way tables. Find the mean from a frequency table. Make a tally chart for grouped data, estimate range and find modal class. Draw and interpret stem and leaf diagrams. Find averages and ranges from stem and leaf diagrams. Compare sets of data using averages, range, pie charts, or line graphs. Identify appropriate averages to use. Draw and interpret scatter graphs. Identify different types of correlation. Draw lines of best fit.
	NUMBER: Number: Prime factor decomposition. Use prime factors to find LCM and HCF.	ALGEBRA: Expressions and Equations: Solve 1 and 2 step equations by doing reverse function machines. Solve equations using the balancing method with unknowns on both sides.	GEOMETRY: Lines and Angles: Angles in parallel line problems. Side and angle properties of triangles. Angles in polygons. Finding unknown angles by using geometry.		NUMBER: Fractions, Decimals and Percentages: Recall key FDP equivalences. Recognise recurring and terminating decimals. Order FDP by converting all to one type. Be able to convert easily between FDP and use this to compare proportions. Percentage increase and decrease with and without a multiplier. Find fractions and percentages of amounts.	
	GEOMETRY: Area and Volume: Derive and use formula for the area of a triangle. Find the area of compound shapes. Find the areas of parallelograms and trapezia. Find the volumes of cubes and cuboids. Sketch 3D shapes. Find the surface area of cubes and cuboids.	ALGEBRA: Real Life Graphs: Read and draw conversion graphs. Interpret and draw distance time graphs for constant speeds. Plot and interpret line graphs and real life graphs. Make predictions from real-life graphs.				

Maths - cumulative curriculum which builds on foundations in KS3

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 9 Foundation	Number: Written calculations, powers and roots, factors, multiples and primes, HCF, LCM and prime factorisation	Algebra: expressions and substitution, expanding and factorising expressions, writing and using formulae	Statistics: Tables, graphs and charts, time series and scattergraphs Number: Operations with fractions, percentages, decimals and fractions, calculating percentages	Algebra: Equations and formulae, inequalities, sequences	Geometry: Angles between parallel lines, triangles and quadrilaterals, interior and exterior angles Statistics: Averages and range, averages and range for grouped data, sampling	Geometry: 2D shapes, 3D solids, measures and conversions
Year 9 Higher	Number: Calculations, factors and multiples, indices and surds, standard form	Algebra: Simplifying, expanding and factorising, equations and formulae, sequences	Statistics: Statistical diagrams, averages and range, scatter graphs and time series Number: Fractions and operations, fractions, decimals and percentages Ratio and proportion: Working with ratio and proportion, conversion of units	Geometry: Angles and polygons, Pythagoras' Theorem, Trigonometry (basic)	Algebra: Linear graphs, non-linear graphs, real-life graphs Geometry: 2D shapes, accuracy and measures, 3D solids volume and surface area	Geometry: Transformations, drawings and bearings, constructions and loci
Year 10 Foundation	Algebra: Algebraic straight line graphs	Ratio and proportion: Simple proportion and best buys, ratio and proportion, graphs and inverse proportion	Geometry: Pythagoras' theorem, finding lengths using trigonometry, finding angles using trigonometry	Number: Percentages	Geometry: 3D solids, constructions, loci and regions, scale drawings and bearings	Number: Accuracy
	Ratio and proportion: Distance-time graphs and scatter graphs, real-life graphs Geometry: Translations and reflections, enlargements and rotations		Statistics: Calculating probabilities, experimental probability, probability diagrams, dependent events	Ratio and proportion: Compound measures, distance, speed and time, direct and inverse proportion	Algebra: Quadratic graphs, quadratic equations	Geometry: Circles and sectors, volume and surface area
Year 10 Higher	Algebra: Quadratic equations, simultaneous equations, inequalities	Ratio and proportion: Percentages, compound measures, ratio and proportion	Geometry: Congruence, similarity in 2D shapes, similarity in 3D shapes, accuracy and 2D problem solving, trigonometric graphs, 3D problem solving	Statistics: Sampling, graphs and charts, comparing data	Algebra: Simultaneous equations, graphs of quadratic functions, graphs of cubic functions	Algebra: Surds, formulae and functions, algebraic fractions, proof
	Statistics: Calculating probability, experimental probability, tree diagrams and venn diagrams				Geometry: Chords, radii and tangents, circle theorems, proofs and equation of tangent to a circle at a given point	
Year 11 Foundation	Number: Reciprocals and fractions, indices, standard form Geometry: Similarity and enlargement, congruence, vectors and translations	Algebra: graphs, simultaneous equations, using algebra	Bespoke medium term plan for review of class gaps	Bespoke medium term plan for review of class gaps	Bespoke medium term plan for review of class gaps	Bespoke medium term plan for review of class gaps
Year 11 Higher	Geometry: Vector notation, vector arithmetic, geometrical problems	Ratio and proportion: Proportion, exponential and other non-linear graphs	Bespoke medium term plan for review of class gaps	Bespoke medium term plan for review of class gaps	Bespoke medium term plan for review of class gaps	Bespoke medium term plan for review of class gaps
		Algebra: Transformations of graphs functions				

KS4 is aimed to be completed by December of year 11, so that remaining time can be spent on revision



Exam board: Edexcel

Two tiers of entry (foundation and higher) with 3 papers each (1 non calc and 2 calc), papers are 80 marks and 90 mins each

Grades available: 1-5 (foundation) 4-9 (higher)

4 - standard pass and 5 - strong pass (4+ needed for post 16 study)

Tier decisions made towards the end of year 10/start of year 11

Only students on track to achieve a solid 6 will be entered for higher



How to support learning

Encourage repeated practice, including checking answers

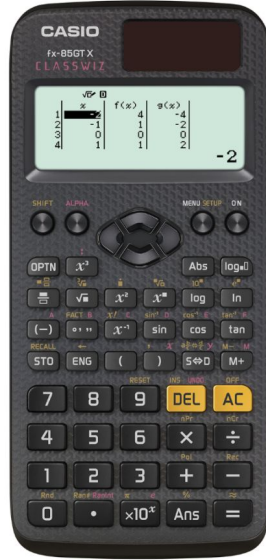
Ask child to teach someone else a method

Check students are completing homework

Ensure that students have correct equipment for every lesson

Support their confidence - maths is a challenging (but rewarding) subject to learn

Equipment required



fx-85GT-X

Black pen (as this is required for exam)

Pencil

Ruler

Eraser

Protractor

Pair of compasses

Scientific calculator (see image for recommended)

Green pen - for self marking in lesson



Useful online resources

Please contact your child's maths teacher if you need any assistance with finding these

HegartyMaths

Corbett Maths

Mr Barton Maths

Eedi

Dr Frost Maths

Diagnostic questions

Maths genie

Just maths

Recommended revision guides



Available to purchase through the school at a discounted price - see parentmail for more details