Mathematics Year 10 Higher

Term		1		2			3			4				6			
Topic	Geometry 1	Number 1	Algebra 1	Geometry 2	Algebra 2	Ratio 1	Algebra 3	Algebra 4	Geometry 3	Geometry 4	Algebra 5	Number 2	Algebra 6	Probability 1	Statistics 1	Algebra 7	Geometry 5
Detail	Deneting Julia in Topicomentry including SCHCAPTIO, Understand and use Vigorometric graphs and now some scale graphs and howes come scale studied of Vigorometric functions. Investigate similar to language.	movise powers and roots of numbers. Understand the Understand the Understand purple them to need to assess the understand fractional and one of a feet of powers from with surds station, the fact of the Rationalising the denominator with surds. Revise rounding, truncating, upger and lower bounds, and error intervals. Calculate with upper and lower bounds.	find appreciments solutions or complex equal flows. Apply handedged allagions through to solving and correlating solving and correlating simultaneous equations.	heaforms expense of yearGormations on a 20 shape, first and and describe a single transfermation with year the year of the year they congruent 20 shapes	Legality An energistics application of the control	Understand that X is inversely	Dudors expressions to accolate the his his more quide disk and linear conquestes. Recognise and use simple geometric progressions (**n where n is an integer, and n is a rational number > 0)	of the form ys ax + b, y < ax + b, x = x + b, x = x + b, y < ax + b. The form of the form	Law Pyrillagers's drawness to final lengths, in a properties of earns, find the surface area of upheres, comes and properties. If the company of the company of the company of the properties area of the company of the company of the company of company of com	meetigate geometric partierns vering crotice. Crotice critic theorems. Make and prove conjustives.	notes of inversor or graft including opportunity graft just continued to the continued to the continued to the continued to the continued to the continued to the continued distance, speal and scotleration. Continued to the continued to the continued distance, speal and scotleration. Continued to end the continued program continued to the continued graft just speaked to all other continued graft just speaked to the continued graft just and graft just in fancacial contents. However, the continued graft and graft just in fancacial contents. However, the content is a proportion of contents and graft in contents and the contents and graft in fancacial contents. However, the contents and graft in fancacial contents. However, the contents and graft in fancacial contents. However, the contents and graft in fancacia contents. However, the contents and graft in the contents and graft in the contents and graft in the contents have been contents and graft in the contents and graf	Charge recurring decimals into their corresponding fractions and view recurring the control of Set up, solve and interpret the answers in growth and dearly preference, including compound interest and set of the control of the control of the preference of preference of preference preference of preference p	factorising find approximate solutions to	Choker stack and and set the product risk of countring and countries and countries and countries and countries are countries and countries are considered and countries are conside	The properties of appointance of artificiations of artificiation of artificiation of a strategic of a surprise of	rine the equation for a largent to a circle at a given point	Apply additions and utbe school of Apply additions and utbe school of victor by a construction, multiplication of victor by a colarie, and diagrammatic and column approximation of victors.
Grade 8-9		Calculate formulae with upper and lower bounds. Rationalising the denominator involving sunds Arithmetic with and	Use interval bisection to locate		Add and subtract algebraic fractions Multiply and divide		Find the nth term of a		Use Pythagons' theorem to find lengths in a	Justify solutions to geometrical problems. Create a chain of logical steps to create a proof in a geometrical situation. Use a combination of known and derived facts to solve a geometrical problem. Know that 'the angle in a semicircle is a	Use graphs of non-standard functions to solve simple kinematic problems Recognise that the gradient of a curve is not constant Know that the gradient of a curve is the gradient of the that that point Calculate the gradient at a point on a				Know the meaning of the lower quartile and	identify the equation of a circle from its graph. Use the equation of a circle to draw its graph. Find the equation of a tangent to circle at a given point. Solve algebraic problems involving.	
Grade 6-7	Investigate, explore and	expand/simplifying of surds	One interval oil extent to locate an approximate solution for a complex equation. Use an iterative formula to find approximate solutions. Solve simultaneous equations	Performs sequence of	form ax ² + bx + c (a is prime)	describe direct and inverse proportion. Solve problems which include finding the multiplier in a situation involving direct/inverse proportion.	rind me ann terms of a quadratic sequence. Recognise and use simple geometric progress sions. (r'n where n is an integer, and r is a rational number > 0) Find missing terms of a	Sate the (simple) inequality	pysamid or cons. Understand the implications of enlargement on area. Understand the implications of enlargement on volume. Understand the implications of enlargement on volume. Move freely between scale factors for length, area and volume. Solve practical problems involving length, area and	right angle.' Know that 'the angle at the centre is double the angle at the circumference'. Know that 'angles in the same segment are equal'. Know that 'opposite angles in a cyclic	 Interpret the gradient of a chord as an average rate of change 	Convert a recurring decimal of the form 0.0x, 0.0x y, to a fraction.	Make connections between graphs and quadratic equations of the form ax ² bix+c = 0. Make connections between graphs and quadratic equations of the form ax ² bix+c = dx+e. Solve problems that involve solving a quadratic equation in context.	the a venn diagram to calculate thecetical probabilities. Calculate conditional probabilities using different representations	*Andow this desiring of the lower quantile and upper quantile upper quantile. *Find the quantiles for discrete data sets. *Calculate and interpret the interquantile range. *Construct and interpret a box plot for discrete data. Use box plots to compare distributions. Use box plots to compare distributions upon the compare distributions discrete data.	Know that perpendicular lines have gradients with a product of -1 identify perpendicular lines using algebraic methods	
Grade 5	Investigate, explore and calculate with right angled trigonome by. Know the exact values of sine, cosine, targent of 0, 30 45, 60, 90 degrees. Use and apply Pythagoras*	Evaluate negative indices and reciprocals including on a calculator.	algebraically. Create and solve linear simultaneous equations.	Performs sequence of transformations on a 2D shape. Find and describe a single transformation given two congruent 2D shapes. Perofem enlargements with a centre and fractional scale factor. Solve problems involving	Aspand the product of two binomials involving sunds. Factorise an expression involving the difference of two squares. Change the subject of a formula when more than two steps are	Recognise and interpret graphs that illustrate direct/inverse proportion. Understand that X is inversely proportional to Y is equivalent to X is proportional to 1/Y.	quadratic sequence.	State the (simple) inequality represented by a shaded region on a graph Construct and shade a graph to show a linear inequality of the formy > xx + b, y < ax + b, y < ax + b, y < ax + b can be a shaded of the formy > x + b can show a linear inequality or show a linear inequality. Find the set of integer	Find the surface area of upheres, cones and presented. In the hereivers of spheres, cones and presented area of the surface area of a composite solid. Solve practical problems involving the surface area of a control of the surface area of solid. Solve practical problems involving the volume of solids.		Identify and Interpret roots, intercepts and turning points of quadratic functions graphically	Recognite when a siluation involves compound interest. Calculate the result of a repeated percentage change, including compound interest. Solve problems involving growth and decay.	Solve a quadratic equation of the form $x^2 + 8x + c$ by factorising. Solve a quadratic equation by marranging and factorising. Find approximate solutions to quadratic equations using a graph. Deduce roots of quadratic functions aligebraically	Apply the product rule for counting	Understand the limitations of sampling		Know and use different notations for vectors, including diagrammatic representation Add and subtract vectors Multiply a vector by a scalar
Grade 4	Use and apply Pythagoras' Theorem in a 2D context.	Know and use the laws of indices.		Solve problems involving similarity				Find the set of integer coordinates that are solutions to a set of inequalities in how wanables. Use set notation to represent the solution set to an inequality						Apply the product rule for counting the a Vennidigam to sort information in a probability problem	Understand the limitations of sampling Use a sample to infer properties of a population		
Grade 2-3		Use index notation with numbers.					Find and use the nth term of a linear sequence							Use a two-way table to sort information in a probability problem			
Keywords	Opposite, adjacent, hypotenuse, trigonometry, function, ratio, sine, cosine, tangent, angle of elevation, angle of depression	Power, root, index, indices, standard form, inequalitym trucate, round, minimum bound, interval, detrains place, significant figure, surd, limit	unknown, solve, solution set, interval, iteration, decimal search, simultaneous equations, substitution, elimination	Peopendicular bisector, Scale Factor, Similar, Congruent, Invariance, Transformation, Rotation, Reflection, Translation, Enlargement	Equivalent Equation Expression, Expand, Linear, Quadratic, Algebraic, Fraction, Difference of two squares, Binomial, Factorise	Direct proportion, inverse proportion, mulitplier	Term, oth term, Generate, Quadratic, First (second) difference, Geometric progression	(Linear) inequality, Variable, Manipulate, Solve, Solution set, integer, Set notation, Region	(Composite) solid Sphere, Pyzanid, Cone Pyzpanidi, Lone Myzpanidi, Lone Myzpanidi, Lone Sorface area, Valume, Composent, composence Sorface area, Valume, Composent, composence Sordarianty, similar shapes, similar figures Enlarge, enlargement, Scale factor	Radius, radii, Tangent, Chord, Theorem, Conjecture, Derive, Prove, proof, Counterexample	Function, equation Linear, non-linear Quadratic, cubic, reciprocal, exponential, Parabola, Aymophes, Gradient, y-intercept, s-intercept, noot Rate of change, Sateth, plot, Kinematic, Speed, distance, time, Acceleration, deceleration	Fraction, Mard number, Top-heavy fraction, Penentage change, percentage increase, percentage increase, percentage increase, Compound leterset, Supple Interest, Terminating decimal, (Exposential) growth, decay	(Quadratic) equation Factorise Rearrange, Variable, Unknown, Manipulate, Solve, Deduce, x- intercept, Root	Outcome, equally likely outcomes Event, independent event, dependent event ree diagrams, Theoretical probability, esperimental probability, Random, Ilas, unblased, fair, Enumerate Set, Conditional probability, Venn	Categorical data, Discrete data Continuous data, Grouped data Asia, awa: Population Reputation Sample, Cumulative frequency, Box plot, box- and-whisker diagram, Central tendency, Mean, median, mode, Same di signation, comissionly Range, Interquartile tange, Stewness	Function, equation, linear, non- linear, Parallel, Perpendicular, Gradient, vintercept, eintercept, root, Sketto, light, Centre (of a circle), Radius, Tangent	Vector, Scalar, Constant, Magnitude
Resource	KM: From set squares to	Maths to infinity. Standard form_Maths to Infinity: Indices	KM: Introduce interval bisection by challenging a toderst to find, your change number (between 1, and 1000000) when the only clue is 'bayer' or smaller' after each great, Compare the final, number of guesses with 20 (since	KM: Enlargement 2	KM: Simplifying algebraic fractions	KM: Graphing proportion	KM: Sequence plotting. A grid for plotting nth term against term.	KM: Linear_ programming with Lego	KM: Stick on the Maths 8: Congruence and Similarity	KM: Right angle challenge	KM: Autograph: Pre-Calculus Activity	EM: Stick on the Maths 8: Recurring decimals and fractions	NRICH: How old am I?	CIMT: Venn diagrams	Em: Sitch on the Maths HD1: Statistics	KM: The gradient of perpendicular lines	KM: Vectors
	KM: Trigonometry flowd	NRICH: Powers and Roots – Short Problems	KM: Babylonian square_ roots – an introduction to_ iterative processes.	KM: Stick on the Maths SSSM3: Enlargement [fractional scale factor]	KM: Maths to Infinity: Brackets	KM: Investigating proportionality	KM: Maths to Infinity: Sequences	KM: Linear_ programming_ (Autograph)	KM: Convinced? Congruence and Similarity	KM: Thales Theorem	KM: Autograph: The numerical gradient	KM: Investigate fractions connected to cyclic numbers; e.g. the decimal equivalents of sevenths, nineteenths, etc	NRICH: Golden thoughts	OCR: Check in: Combined_ events and probability diagrams	KM: HD2: Comparing distributions	KM: Introducing the equation of a circle	NRICH: Vectors
	NRICH: Trigonometric pr	NRICH: Power Countdown	KM: Iteration	KM: Stick on the Maths SSM1: Congruence and Similarity	KM: Maths to Infinity: Quadratics	KM: Stick on the Maths NNS1: Understanding Proportionality KM: Stick on the Maths	KM: Stick on the Maths: Quadratic sequences	KM: Stick on the Maths 8: Inequalities	NRICH: Surface Area and Volume	KM: 6 point circles	NRICH: What's that graph?	KM: Stick on the Maths 8: Repeated Proportional Change	Hwb: Algebra Fails	AQA: Bridging Unit: Set_ notation, number lines and Venn diagrams	KM: Cumulative frequency and box plots	KM: The general equation of a circle	CIMT: Vectors
	Hwb: Greenhouse	Powers of 10	KM: Stick on the Maths: ALG2 Simultaneous linear equations KM: Convinced?: ALG2	NRICH: Growing Rectangles	KM: Stick on the Maths: Quadratic Sequences	CALC1: Proportional Change and multiplicative methods	Hwb: Linear and guadratic sequences	KM: Convinced?: Inequalities in two variables	NRICH: Nicely similar	KM: 8 point circles	Hwb: The 100m race	KM: Convinced?: Recurring decimals and fractions.			NRICH: The Live of Presidents		AQA Bridging units: Vectors
		KM: Bounding out	Simultaneous linear equations		NRICH: What's possible?		http://nrich.maths.org/1 1212	NRICH: Which is bigger?	Hwb: Summerhouse	KM: 12 point circles	MAP: Representing functions of everyday situations	KM: Convinced?: Repeated Proportional Change			NRICH: Olympic Triathlon	NRICH: At Right Angles FMSP: Geogebra - Equation of	
		Powerpoint	NRICH: Matchless AQA: Bridging Units		NRICH: Finding factors	NRICH: In Proportion		Hwb: How do we know?	Hwb: Radiators	KM: Dynamic diagrams	ILIM: Interpreting Distance Time Graphs GCSE: Subject Knowledge Check -	NRICH: Repetitiously			NRICH: Box Plot Match	a tangent to a circle	
		KM: Calculating bounds: a summary Hwb: Fibonacci	Resource Pocket 4 (Skills builder 2 and 3)		Algebra tiles			MAP: Defining regions using inequalities	OCR: Congruence Check In	NRICH: Circle theorems	Tangents to a curve and Areas under a curve	Hwb: Borrowing money: APR			OCR: Sampling		
		Rectangles 1 Hub: Fibonacci Rectangles 2 Hub: Motorway Roadworks Hub: Rhayader has moved Hub: Manipulating Surds						CIMT: Inequalities	OCR: Similarity Check In	Hwb: Cadair Idris Hwb: Cyclic guadrilaterals		Hado: Too good to be true Hado: Double your money Hado: Comparing Interest			OCR: Analyzing Onto		