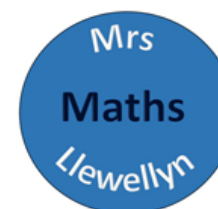


## Specification GCSE AQA Further Maths

1. Number		2. Algebra				3. Coordinate Geometry	
1.1	Calculations of numbers, fractions, decimals, percentages, ratio, proportion	2.1	Basic algebra	2.15	Simultaneous equations	3.1	Gradients
1.2	Product rule for counting	2.2	Function Notation	2.16	Algebraic solution of linear equations in	3.2	Parallel and perpendicular lines
1.3	Surds	2.3	Domain and range of a function	2.17	Solution of linear and quadratic inequalities	3.3	Pythagoras' theorem
		2.4	Composite functions	2.18	Index laws, including fractional and negative	3.4	Use ratio to find the coordinates of a point
		2.5	Inverse functions	2.19	Algebraic proof	3.5	The equation of a straight line
		2.6	Expanding brackets and collecting like terms	2.20	Using nth terms of sequences	3.6	Draw a straight line from given information
		2.7	Expand (a + b)n for positive integer n	2.21	nth terms of linear sequences	3.7	Circles $x^2 + y^2 = r^2$
		2.8	Factorise fully	2.22	nth terms of quadratic sequences	3.8	Understand that $(x - a)^2 + (y - b)^2 = r^2$
		2.9	Manipulation of rational expressions			3.9	The equation of a tangent at a point on a circle
		2.10	Rearrange formulae				
		2.11	Use of the factor theorem				
		2.12	Completing the square				
		2.13	Drawing and sketching of functions				
		2.14	Solution of linear and quadratic equations				



## Specification GCSE AQA Further Maths

4. Calculus		5. Matrix Calculations		6. Geometry	
4.1	Differentiation	5.1	Multiplication of matrices	6.1	Perimeter and area of 2D shapes plus surface area and volume of
4.2	Know that the gradient of a function is the gradient of the tangent at that point.	5.2	The identity matrix $2 \times 2$ only	6.2	Understand and construct geometrical proofs using formal arguments
4.3	Differentiation of $kx^n$ where $n$ is an integer,	5.3	Transformations of the unit square in the $x-y$ plane	6.3	Sine and cosine rules in scalene triangles; plus area of a triangle using Sin
4.4	The equation of a tangent at any point on a curve	5.4	Combination of transformations	6.4	Use of Pythagoras' theorem in 2D and 3D Recognise Pythagorean triples; 3, 4, 5; 5,12,13;
4.5	Increasing and decreasing functions When the gradient is positive/negative a function			6.5	Be able to apply trigonometry and Pythagoras' theorem to 2 and 3 dimensional problems
4.6	Use the notation $\frac{d^2y}{dx^2}$			6.6	Sketch and use graphs of $y = \sin x$ , $y = \cos x$ , and $y = \tan x$
4.7	Use of differentiation to find maxima and			6.7	Be able to use the definitions $\sin \theta$ , $\cos \theta$ and $\tan \theta$ , for any positive angle up to $360$
4.8	Using calculus to find maxima and minima			6.8	Knowledge and use of $30^\circ$ , $45^\circ$ , $60^\circ$ , $90^\circ$ triangles
4.9	Sketch/ interpret a curve with known maximum			6.1	Solution of simple trigonometric equations in given intervals

