

Keywords: Summer 1

Year 11 Higher Maths

Topic Title: Final Exam Revision

- You will have covered most, if not all new topics by this stage so will be revising those that are of most importance
- These words are some of the more unusual topic titles!

Keyword	Definition
Bounds	Upper and lower bounds give the range in which a value or answer lies. These often arise from rounding values giving rise to inaccuracies in later calculations. A key consideration here is how a bound is found. e.g. the lower bound of a divided by b , say, would be the lowest possible value of a , divided by the highest possible value of b .
Surds	A way of expressing an exact value that derives from the square root of a non-square number. These are usually the square roots of prime numbers. e.g. $\sqrt{32} = \sqrt{16}\sqrt{2} = 4\sqrt{2}$.
Histograms	Used with continuous data, often where class intervals are unequal, histograms show <i>frequency density</i> . Thus, the <i>area</i> of a bar indicates the <i>frequency</i> for a class interval.
Vectors	Vectors have distance (magnitude) and direction (an angle from the horizontal). They are usually written as a column vector if known, if not underlined lower case letters are used in handwriting (" <u>a</u> ") and bold (" a ") is used in textbooks and on websites, etc.
Exponential graphs	These graphs take the general form of $y = Ab^{\pm x}$. For "+x" the graph starts slow then increases rapidly (exponential growth). For "-x" the graph drops quickly and then flattens out (exponential decay)
Function notation	The use of correct mathematical notation. $f(x)$, $g(x)$, etc leading to composite functions (e.g. $fg(x)$) and inverse functions ($f^{-1}(x)$).
(Extension) Calculus	This area of maths deals with how things change. In the first instance this is usually about graphs – how a graph changes is its gradient. This leads to being able to find minimum and maximum values and finding the equations of tangents and normals.
(Extension) Kinematics	This is about objects in motion, relating an object's displacement (position) with its velocity and acceleration using calculus.