GCSE UNIT SUMMARY: UNIT 5: Equations, inequalities and sequences

5a) Equations and inequalities

Unit Description	Taught	Revision Priority
Know the difference between expression/equation/formula/identity;		
Write expressions and set up simple equations including forming an equation from a word problem;		
Use function machines;		

Solve simple equations including those:
        with integer coefficients, in which the unknown appears on either side or on both sides of the equation;
        which contain brackets, including those that have negative signs occurring anywhere in the equation, and those with a negative solution;
        with one unknown, with integer or fractional coefficients;		

Rearrange simple equations;		
Substitute into a formula, and solve the resulting equation;		
Find an approximate solution to a linear equation using a graph;		
Solve angle or perimeter problems using algebra.		
Show inequalities on number lines;		
Write down whole number values that satisfy an inequality;		
Solve an inequality such as $-3 < 2x + 1 < 7$ and show the solution set on a number line;		
Solve two inequalities in x, find the solution sets and compare them to see which value of x satisfies both;		
Use the correct notation to show inclusive and exclusive inequalities;		
Construct inequalities to represent a set shown on a number line;		
Solve simple linear inequalities in one variable, and represent the solution set on a number line;		

5b) Sequences

Unit Description	Taught	Revision Priority
Recognise sequences of odd and even numbers, and other sequences including Fibonacci sequences;		
Use function machines to find terms of a sequence;		
Write the term-to-term definition of a sequence in words;		
Find a specific term in the sequence using position-to-term or term-to-term rules;		

Generate arithmetic sequences of numbers,
        triangular number,
        square and cube integers
        and sequences derived from diagrams;		

Recognise such sequences from diagrams and draw the next term in a pattern sequence;		
Find the next term in a sequence, including negative values;		

Find the nth term
        for a pattern sequence;
        a linear sequence;
        of an arithmetic sequence;		

Use the nth term of an arithmetic sequence to generate terms; decide if a given number is a term in the sequence, or find the first term over a certain number; find the first term greater/less than a certain number;		
Continue a geometric progression and find the term-to-term rule, including negatives, fraction and decimal terms;		
Continue a quadratic sequence and use the nth term to generate terms;		
Distinguish between arithmetic and geometric sequences.		