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**Mathematics Faculty**

**Year 11 Higher - Autumn Term 2**

**Unit 4 Overview – Expressions, Equations and Inequalities**

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| **Topic** | **Key Ideas** | **Progress** | | |
| **R** | **A** | **G** |
| **Expressions, Equations and Inequalities** | I can simplify algebraic fractions. |  |  |  |
| I can manipulate algebraic fractions using the four operations. |  |  |  |
| I can solve equations involving algebraic fractions. |  |  |  |
| I can use iteration. |  |  |  |
| I can use identities. |  |  |  |
| I can use algebra to verify a statement. |  |  |  |
| I can construct algebraic proofs. |  |  |  |
| I can represent quadratic inequalities graphically. |  |  |  |

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| **Lesson** | **Learning Focus** | **Assessment** | **Key Words** |
| **1** | **Simplifying algebraic fractions by factorising and cancelling expressions (CM clip 24)** | Formative assessment strategies e.g. MWBs, whole class questioning, Diagnostic Questions, SLOP time with self-assessment, Live Marking etc.  Assessment is also supported with our use of ILOs, set through Century Learning, Corbettmaths, Dr Frost Maths and Justmaths.  Finally, units are assessed through staples challenges and half termly assessments, as part of our Assessment Calendar in Mathematics. | fraction, numerator, denominator, factorise, simplify, expression, term |
| **2** | Multiplying and dividing algebraic fractions (CM clips 22 & 23) | fraction, numerator, denominator, multiply, divide, factorise, simplify, expression, term |
| **3** | Adding and subtracting algebraic fractions (CM clip 21) | fraction, numerator, denominator, add, subtract, simplify, expression, term |
| **4** | Solving equations involving algebraic fractions (CM clip 111) | fraction, numerator, denominator, equation, solve, factorise, simplify, expression, term |
| **5** | **Finding approximate solutions to equations numerically using iteration (CM clip 373)** | equation, solution, iteration, approximate, notation, rearrange, substitute |
| **6** | Recognising and using identities. Showing algebraic expressions are equivalent. Using algebraic expressions to verify a statement. | identity, equation, expression, coefficient, expand, equate, equivalent, verify |
| **7** | **Constructing rigorous proofs to validate a given result (CM clip 365)** | proof, expression, odd, even, consecutive, factorise |
| **8** | Solving quadratic inequalities, representing the solution using set notation and on a graph (CM clip 378) | inequality, quadratic, graph, solution, set notation, greater than, less than, intercept |