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**Mathematics Faculty**

**Year 10 Higher – Autumn Term 1**

**Unit 2 Overview - Manipulating Expressions**

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| **Topic** | **Key Ideas** | **Progress** | | |
| **R** | **A** | **G** |
| **Manipulating Expressions** | I can expand double and triple brackets. |  |  |  |
| I can factorise quadratic expressions. |  |  |  |
| I can simplify algebraic fractions. |  |  |  |
| I can use the four operations with algebraic fractions. |  |  |  |
| I can rearrange formulae where the subject appears more than once. |  |  |  |
| I can use identities. |  |  |  |
| I can use algebra to verify and support statements. |  |  |  |
| I can construct algebraic proofs. |  |  |  |

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| **Lesson** | **Learning Focus** | **Assessment** | **Key Words** |
| **1** | **Expanding double brackets** (CM clip 14) | 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 skills checks and half termly assessments, as part of our Assessment Calendar in Mathematics. | bracket, expand, term, simplify, coefficient, quadratic |
| **2** | Expanding triple brackets (CM clip 15) | bracket, expand, term, simplify, coefficient, quadratic |
| **3** | **Factorising quadratic expressions of the form x2 + bx + c** (CM clips 118 & 120) | factorise, expression, quadratic, bracket, sum, product, difference, square |
| **4** | Factorising quadratic expressions of the form ax2 + bx + c (CM clips 119 & 120) | factorise, expression, quadratic, bracket, sum, product, difference, square, coefficient |
| **5** | **Simplifying algebraic fractions by factorising and cancelling expressions** (CM clip 24) | fraction, algebraic, simplify, cancel, factorise, factor, numerator, denominator, product |
| **6** | Multiplying and dividing algebraic fractions (CM clips 22 & 23) | fraction, multiply, divide, simplify, cancel, factorise, factor, numerator, denominator, product |
| **7** | Adding and subtracting algebraic fractions (CM clip 21) | fraction, add, subtract, denominator, simplify |
| **8** | **Rearranging formulae where the subject appears more than once** (CM clips 7 & 8) | formula, subject, rearrange, inverse, factorise |
| **9** | Knowing the difference between an equation and an identity. Using identities including equating coefficients. | equation, identity, coefficient, equate |
| **10** | Showing algebraic expressions are equivalent. Using algebraic expressions to support an argument or verify a statement | expression, equivalent, rearrange, support, verify, show |
| **11** | Constructing rigorous proofs to validate a given result (CM clip 365) | proof, factorise, odd, even, consecutive |