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| **F Unit 2: Algebra** | **Road Map** | | | | | |
| In this unit you will learn about number. The aims are as follows:  **LG1**: Knowledge  **LG2**: Application  **LG3**: Skills | Assessment Grades |  |  | | | |
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| **Themes** | **Learning Goals/Outcomes/Content** | | |  |  |  |
| 2a Algebra: The basics | Use notation and symbols correctly; | | |  |  |  |
| Write an expression; | | |  |  |  |
| Select an expression/equation/formula/identity from a list; | | |  |  |  |
| Manipulate and simplify algebraic expressions by collecting ‘like’ terms; | | |  |  |  |
| Multiply together two simple algebraic expressions, e.g. 2*a* × 3*b*; | | |  |  |  |
| Simplify expressions by cancelling, e.g.  = 2*x*; | | |  |  |  |
| Use index notation when multiplying or dividing algebraic terms; | | |  |  |  |
| Use index laws in algebra; | | |  |  |  |
| Use index notation in algebra. | | |  |  |  |
| Understand the ≠ symbol and introduce the identity ≡ sign; | | |  |  |  |
| 2b Expanding and factorising single brackets | Multiply a single number term over a bracket; | | |  |  |  |
| Write and simplify expressions using squares and cubes; | | |  |  |  |
| Simplify expressions involving brackets, i.e. expand the brackets, then add/subtract; | | |  |  |  |
| Argue mathematically to show algebraic expressions are equivalent; | | |  |  |  |
| Recognise factors of algebraic terms involving single brackets; | | |  |  |  |
| Factorise algebraic expressions by taking out common factors. | | |  |  |  |
| 2c Expressions and substitution into formulae | Write expressions to solve problems representing a situation; | | |  |  |  |
| Substitute numbers in simple algebraic expressions; | | |  |  |  |
| Substitute numbers into expressions involving brackets and powers; | | |  |  |  |
| Substitute positive and negative numbers into expressions; | | |  |  |  |
| Derive a simple formula, including those with squares, cubes and roots; | | |  |  |  |
| Substitute numbers into a word formula; | | |  |  |  |
| Substitute numbers into a formula. | | |  |  |  |

**Links:**

LG1: You will use the algebraic processes from this topic in all future algebra topics.

LG2: You will apply the algebraic processes from this topic to model written and geometric problems using algebra.

LG3: You will use your problem-solving skills and mastery of algebra to solve complex Mathematical problems such as problems to do with formulae used in real-life.

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