**Curriculum Related Expectations**

HT1: Year 7 Algebraic Thinking

**Students can define the following terms:**

|  |  |  |
| --- | --- | --- |
| Arithmetic | Coefficient | Commutative |
| Difference | Equality | Equals |
| Equation | Evaluate | Expression |
| Function | Geometric | Input |
| Inverse | Like | Linear |
| Non-Linear | Operation | Output |
| Rule | Sequence | Solution |
| Solve | Substitute | Term |

**Students know:**

* how to explore sequences using both diagrams and lists of numbers
* about graphs of linear and non-linear functions and how this links to patterns they have spotted
* how to use letter notation to support in calculations
* about basic algebraic forms such as expressions
* how to use inverse operation to help to solve linear equations

**Students can:**

* move freely between different numerical, algebraic, graphical and diagrammatic representations
* make and test conjectures about patterns and relationships
* generate terms of sequences from a term-to-term rule
* recognise arithmetic and geometric sequences and appreciate other sequences that arise
* use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships
* recognise and use relationships between operations including inverse operations
* model situations or procedures by translating them into algebraic expressions
* use and interpret algebraic notation
* produce graphs of linear functions of one variable
* substitute values in expressions, rearrange and simplify
* simplify and manipulate algebraic expressions to maintain equivalence by collecting like terms
* use approximation through rounding to estimate answers
* use algebraic methods to solve linear equations in one variable