Apply algebraic methods in solving problems

Achieved	Merit	Excellence
Apply algebraic methods in solving problems.	Apply algebraic methods, using <u>relational thinking</u>, in solving problems.	Apply algebraic methods, using <u>extended abstract thinking</u>, in solving problems.

<u>Relational Thinking</u> - Involves selecting and carrying out a logical sequence of steps, connecting different concepts or representations, demonstrating understanding of concepts, and relating findings to a context.

<u>Extended Abstract Thinking</u> - Involves devising a strategy, identifying relevant concepts, developing logical reasoning, forming generalizations, and communicating mathematical insight.

Algebraic Methods

The methods included in this standard are related to:

- ☐ Manipulating algebraic expressions, including rational expressions

- ☐ Manipulating expressions with exponents, including fractional and negative exponents

- ☐ Determining the nature of the roots of a quadratic equation

- ☐ Solving exponential equations (which may include manipulating logarithms)

- ☐ Forming and solving linear and quadratic equations

Problems

The problems will be set in real-life or mathematical contexts and provide opportunities to apply algebraic knowledge and methods.

Key Vocabulary

Students are expected to understand and use terms related to graphical methods, such as:

☐ Factorisation	☐ Coefficient	☐ Asymptote
☐ Discriminant	☐ Polynomial	☐ Discriminant
☐ Logarithm	☐ Irrational	☐ Quadratic Formula
☐ Parabola	☐ Expansion	☐ Perfect Square
☐ Roots	☐ Simplification	☐ Indices