

Year 10 Mathematics

UNIT GOALS

The specific goals of this unit are for students to:

- Factorise algebraic expressions by taking out a common algebraic factor
- Apply the four operations to simple algebraic fractions with numerical denominators
- Substitute values into formulas to determine an unknown
- Solve problems involving linear equations, including those derived from formulas
- Solve linear inequalities and graph their solutions on a number line
- Solve linear simultaneous equations, using algebraic and graphical techniques including using digital technology
- Solve problems involving parallel and perpendicular lines
- Solve linear equations involving simple algebraic fractions
- Formulate proofs involving congruent triangles and angle properties
- Apply logical reasoning, including the use of congruence and similarity, to proofs and numerical exercises involving plane shapes
- Simplify algebraic products and quotients using index laws
- Solve right-angled triangle problems including those involving direction and angles of elevation and depression
- Factorise algebraic expressions by taking out a common algebraic factor
- Expand binomial products and factorise monic quadratic expressions using a variety of strategies
- Substitute values into formulas to determine an unknown
- Solve simple quadratic equations using a range of strategies

UNIT OVERVIEW

Topic 1: Linear Relations

- Number & Algebra: Patterns and algebra
- Number & Algebra: Linear and non-linear relationships

Topic 2: Geometry

- Measurement and Geometry: Geometric reasoning

Topic 3: Indices & Surds

- Number & Algebra: Patterns and algebra

Topic 4: Trigonometry

- Measurement and Geometry: Pythagoras and trigonometry

Topic 5: Quadratic Equations

- Number & Algebra: Patterns and algebra
- Number and Algebra: Linear and non-linear relationships

ASSESSMENT DETAILS

	Assessment Task	Week Due
Term 1		
AT1	Test: Linear Relations	3
AT2	Assignment: Geometry	7
Term 2		
AT3	Test: Indices and Surds	1
AT4	Assignment: Trigonometry	5
AT5	Test: End of semester exam covering all topics	8