

Shirley Smith High School Vision and Values

Grow with us.

At Shirley Smith High School, teaching and learning is authentic, rigorous, and designed to maximise student agency. We align deep disciplinary knowledge and excellent pedagogical practice to ensure our learners are empowered to find their purpose, fulfil their potential, and shape their own futures.

Students at Shirley Smith High School are:

Curious

brave and open minded inquirers with a desire to know and understand

Connected

inclusive young people connected to each other, connected to their community and connected to Country

Learners

creative empowered learners with boundless potential for their futures and the future of our planet

Subject Details

Subject/s:	Mathematics	Learning Area:	STEM
Teacher/s:	Liang Chen, Cheryl Walker, Sujata Chaudhri, Will Roberts	Learning Period:	Semester 1, 2026

Engagement in Learning

In order to facilitate active engagement in their learning, students are expected to:

- Arrive prepared for their lessons, equipped with a fully charged chromebook, a notebook, a pen or pencil, and any other subject-specific materials that may be necessary.
- Independently make an effort to retrieve and complete any missed assignments or coursework due to absences or extracurricular activities during their own time.
- Embrace the principles of the school's Yindymarra wellbeing framework by treading lightly. This involves taking moments to pause, authentically connecting with others, engaging in deep listening, thoughtful reflection, and considering the impact of their actions on others.

Learning and Assessment Policies

Please see the school website for policies regarding the submission of late work, extension requests for assessment tasks, and plagiarism and academic integrity.

Description of Learning

Unit overview:

In Semester One, Year 9 Mathematics develops students' understanding of number and its application in real-world contexts. Through the Number strand, students strengthen their number sense by working with concepts of magnitude, order and equivalence, and by applying operations and their properties to solve problems involving discrete and continuous quantities. They build fluency and reasoning skills that underpin financial literacy, measurement, estimation and informed decision-making in personal, civic and workplace settings. Students apply these skills within a mathematical modelling framework, where they use mathematics to represent, analyse and make predictions about real-world situations. They learn to make assumptions, identify relevant variables, formulate and test models, interpret

results and communicate conclusions clearly, recognising how mathematics supports evidence-based judgement and informed citizenship.

The semester also focuses on Algebra and Linear Relationships, where students use symbolic language to describe patterns, represent relationships and solve problems. They develop skills in manipulating algebraic expressions, solving equations, identifying equivalence and generalising number relationships. Students connect numeric, algebraic and graphical representations, particularly when exploring linear relationships and interpreting gradients and intercepts in real-world contexts. Through these experiences, they strengthen their ability to reason abstractly, recognise structure, and apply mathematical thinking across disciplines such as science, finance, engineering and construction. Emphasis is placed on clear working, logical justification and effective mathematical communication.

Unit learning outcomes:

By the end of this unit, students will demonstrate a level of achievement for the following standards:

- Extends and applies the exponent laws with positive integers to variables
- Expresses small and large numbers in scientific notation
- Uses mathematical modelling to solve problems involving change in financial and other applied contexts, choosing to use linear and quadratic functions
- Expands binomial products, and factorises monic quadratic expressions
- Finds the distance between 2 points on the Cartesian plane, and the gradient and midpoint of a line segment
- Describes the effects of variation of parameters on functions and relations, using digital tools, and makes connections between their graphical and algebraic representations
- Graphs quadratic functions and solves monic quadratic equations with integer roots algebraically

Assessment:

Task	Approximate Due Date
- Class work	Ongoing
- Number Test	Week 6
- Number and Financial Mathematics Assignment	Week 10
- Algebra Test	Week 16
- Linear Equations Test	Week 20

Learning Experiences

Throughout the unit, students may have the opportunity to engage in the following learning experiences:

Competitions - CAT Competition, Mathematics Challenge, Mathematics Competition and Mathematics Enrichment