

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:	Benjamin Hobbs, Sujata Chaudhri, Angela Cleland,	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:

This Year 8 Mathematics unit is designed to develop students' understanding of key mathematical concepts and skills aligned with the Australian Curriculum (V9). Through engaging activities and problem-solving tasks, students will build confidence in applying mathematics to real-world situations.

Students will deepen their understanding of numbers by exploring operations with integers, fractions, and decimals, strengthening their computational fluency. In finance, they will apply percentage calculations to real-life contexts such as

discounts, interest, and profit and loss. The study of percentages, rates, and ratios will enable students to compare quantities and solve problems involving proportional relationships.

The unit also introduces algebra as a fundamental tool for mathematical reasoning, focusing on simplifying expressions, solving equations, and understanding linear relationships through tables, graphs, and rules. Students will explore equations in depth, learning to manipulate algebraic expressions and solve for unknowns.

Finally, the study of time will enhance students' ability to interpret and calculate durations, timetables, and time zones, reinforcing the importance of mathematics in everyday life.

By engaging with these topics, students will develop critical thinking skills and an appreciation for the role of mathematics in problem-solving and decision-making.

Unit learning outcomes:

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

- Recognises irrational numbers and terminating or recurring decimals
- Applies the exponent laws to calculations with numbers involving positive integer exponents
- Solves problems involving the 4 operations with integers and positive rational numbers
- Uses mathematical modelling to solve practical problems involving ratios, percentages and rates in measurement and financial contexts
- Applies algebraic properties to rearrange, expand and factorise linear expressions
- Graphs linear relations and solves linear equations with rational solutions and one-variable inequalities, graphically and algebraically
- Uses mathematical modelling to solve problems using linear relations, interpreting and reviewing the model in context
- Makes and tests conjectures involving linear relations using digital tools
- Solves problems of duration involving 12 and 24 hour cycles across multiple time zones

Assessment:

Task	Approximate Due Date
- Class work	Ongoing
- Number Test - integers, rational/irrational number, rounding decimals, index	Week 5
- Rates, Ratios and Percentages Task	Week 10
- Algebra Test	Week 14
- Linear Equations Test/class task	Week 18
- Time task	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