

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 2, 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 Yindyamarra 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 Two, Year 9 Mathematics develops students' understanding of geometry and measurement through the investigation of relationships between shapes, space and dimension. Students apply Pythagoras' Theorem and trigonometry to determine unknown lengths and angles in practical contexts, while exploring the properties of congruent and similar figures to justify mathematical reasoning and solve geometric problems. They extend their understanding of perimeter, area and volume by selecting and applying appropriate formulas to a range of two- and three-dimensional objects, interpreting measurements in authentic contexts such as architecture, engineering and design. Students also develop logical reasoning through evidence to construct and communicate valid geometric arguments.

The semester also focuses on Statistics and Probability, where students develop the skills to collect, represent, analyse and interpret data to support informed decision-making. Students investigate data collection methods and sampling techniques, representing information using stem-and-leaf plots and box plots while interpreting measures of spread to compare distributions and identify variation. They extend their understanding of probability by analysing events using Venn diagrams, two-way tables and tree diagrams, and by comparing theoretical probability with relative frequencies obtained from experimental data. Through these experiences, students strengthen their ability to recognise patterns, evaluate evidence and communicate statistical conclusions with precision, applying mathematical thinking to real-world situations involving uncertainty, risk and data-informed decision-making.

Unit learning outcomes:

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

- Applies formulas to solve problems involving the surface area and volume of right prisms and cylinders
- Determines percentage errors in measurements
- Applies Pythagoras' theorem and uses trigonometric ratios to solve problems involving right-angled triangles
- Uses mathematical modelling to solve practical problems involving direct proportion, ratio and scale, evaluating the model and communicating their methods and findings
- Applies the enlargement transformation to images of shapes and objects, and interprets results
- Compares and analyses the distributions of multiple numerical data sets, chooses representations, describes features of these data sets using summary statistics and the shape of distributions, and considers the effect of outliers
- Explains how sampling techniques and representation can be used to support or question conclusions or to promote a point of view
- Assigns probabilities to the outcomes of compound events
- Designs and conducts experiments or simulations for combined events using digital tools

Assessment:

Task	Approximate Due Date
- Class work	Ongoing
- Geometry Test	Week 5
- Measurement Test	Week 8
- Probability Assignment	Week 14
- Statistics Assignment	Week 17
- Statistics Test	Week 18