2024 Lanyon High School

Year 8 — Australian Curriculum: Mathematics

<table>
<tr><td>Identify curriculum</td><td>Achievement standard</td><td colspan="4">By the end of Year 8, students recognise irrational numbers and terminating or recurring decimals. They apply the exponent laws to calculations with numbers involving positive integer exponents. Students solve problems involving the 4 operations with integers and positive rational numbers. They use mathematical modelling to solve practical problems involving ratios, percentages and rates in measurement and financial contexts. Students apply algebraic properties to rearrange, expand and factorise linear expressions. They graph linear relations and solve linear equations with rational solutions and one-variable inequalities, graphically and algebraically. Students use mathematical modelling to solve problems using linear relations, interpreting and reviewing the model in context. They make and test conjectures involving linear relations using digital tools.

Students use appropriate metric units when solving measurement problems involving the perimeter and area of composite shapes, and volume of right prisms. They use Pythagoras' theorem to solve measurement problems involving unknown lengths of right-angle triangles. Students use formulas to solve problems involving the area and circumference of circles. They solve problems of duration involving 12- and 24-hour cycles across multiple time zones. Students use 3 dimensions to locate and describe position. They identify conditions for congruency and similarity in shapes and create and test algorithms designed to test for congruency and similarity. Students apply the properties of quadrilaterals to solve problems.

They conduct statistical investigations and explain the implications of obtaining data through sampling. Students analyse and describe the distribution of data. They compare the variation in distributions of random samples of the same and different size from a given population with respect to shape, measures of central tendency and range. Students represent the possible combinations of 2 events with tables and diagrams, and determine related probabilities to solve practical problems. They conduct experiments and simulations using digital tools to determine related probabilities of compound events.</td></tr>
<tr><td rowspan="3">Teaching and learning</td><td>Term overview</td><td>Term 1</td><td>Term 2</td><td>Term 3</td><td>Term 4</td></tr>
<tr><td></td><td>NUMBER
- Solve problems involving 4 operations with integers and positive rational numbers.
- Apply exponent laws to numbers involving positive integer exponents.

ALGEBRA
- Apply algebraic properties to rearrange, expand, and factorise linear expressions.
- Graph linear relations and solve linear equations with rational solutions and one-variable inequalities.
- Use mathematical modelling to solve linear equations and Interpret and model them in context.
- Use digital tools to make and test conjectures involving linear relations.</td><td>MEASUREMENT
- Use Pythagoras theorem to solve measurement problems involving unknown lengths of right triangles.
- Identify conditions for congruence and similarity in shapes and create and test algorithms designed to test for congruence and similarity.
- Apply the properties of quadrilaterals to solve problems.
- Solve problems of duration involving 12- and 24-hour cycles across multiple time zones</td><td>MEASUREMENT
- Use 3 dimensions to locate and describe position.
- Use appropriate units when solving perimeter and area problems for composite shapes and volume of right prisms.
- Recognise irrational numbers and terminating or recurring decimals.
- Solve problems involving the area and circumference of circles.

NUMBER
- Use mathematical modelling to solve practical problems involving ratios, percentages and rates in measurement and financial contexts.</td><td>STATISTICS
- Compare the variation in distributions of random samples of the same and different size with respect to shape, measures of central tendency and range.
- Analyse and describe the distribution of data.
- Conduct statistical investigations and explain the implications of obtaining data through sampling.

PROBABILITY
- Represent the possible combinations of 2 events with tables and diagrams, and determine related probabilities to solve practical problems.
- Conduct experiments and simulations using digital tools to determine related probabilities of compound events.</td></tr>
<tr><td>General capabilities and Cross curriculum priorities</td><td></td><td></td><td></td><td></td></tr>
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Literacy · Numeracy · ICT capability · Critical and creative thinking · Ethical behaviour · Personal and social capability · Intercultural understanding

Aboriginal and Torres Strait Islander histories and cultures · Asia and Australia's engagement with Asia · Sustainability

Develop assessment	**Major Assessment**	**Term 1**		**Term 2**		**Term 3**		**Term 4**	
		Week	**Assessment instrument**	**Week**	**Assessment instrument**	**Week**	**Assessment instrument**	**Week**	**Assessment instrument**
		4	Integers Assessment	14	Pythagoras Assessment	6	Measurement Assessment	12-14	Statistics Assessment
		7	Exponent Laws Assessment	17	Shapes and congruence Assessment Quadrilaterals Assessment	6-8	Circles Assignment ongoing	16	Probability Assessment
		9	Algebra Assessment	19	12/24 hour time Assignment	10	Financial literacy Assessment	All semester	Continuous ongoing assessment
		10-11	Algebra Assessment	All semester	Continuous ongoing assessment				
Make judgments and use feedback	**Moderation**	**Term 1**		**Term 2**		**Term 3**		**Term 4**	
		Teachers moderate assessment tasks to ensure consistency of judgments.							