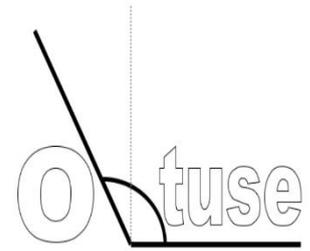


Year 9 Units

Semester 1 - MA625 Number, Index Laws, Linear Relations, Pythagoras, Trigonometry and Measurement

In Semester 1 students build upon their understanding of proportional reasoning, indices, rates and ratio. They are introduced to direct proportion and extend proportional reasoning to include simple interest. Students apply index laws to expressions with integer indices and express numbers in scientific notation. They develop an understanding of similarity and similar figures.

This unit builds upon students' understanding of area, surface area and volume of composite shapes and cylinders. They investigate very small and very large time scales and intervals. Students are introduced to Pythagoras' theorem and its application to right-angles triangles. They are also introduced to the trigonometric ratios of sine, cosine and tangent and solve problems involving right-angled triangles.



Semester 1 MA626 Number, Measurement & Geometry Consolidation Unit

This unit revisits the strands of Number & Algebra, Measurement & Geometry. The students will cover the same topic areas as MA625/MA627 (please refer above) **at a level which is appropriate to each student in the unit.**



Semester 2 - MA628 Linear Equations, Linear Relations & Parabolas, Congruence, Algebraic Techniques, Probability and Statistics



In Semester 2 Year 9, students continue to develop their understanding of algebra to solve problems and also they learn to sketch both linear and non-linear relationships. They develop familiarity with calculations involving the Cartesian plane. They perform algebraic expansions, including binomials, extend their understanding of the index laws, find the distance between two points located on a Cartesian plane, find the midpoint and gradient of a line segment (interval) on the Cartesian plane, sketch linear graphs using the coordinates of two points and sketch simple non-linear relations with and without the use of digital technologies.

Students will use enlargement transformation to explain similarity and solve problems using ratio and scale factors. Students' understanding of the fundamentals of probability and statistics will include identifying complementary events, using two-way tables and Venn diagrams and explore the mean and median.

This unit extends students' learning to identifying numerical and categorical variables, conducting two-step chance experiments with and without replacement, calculating relative frequencies, investigating surveys used in the media and describing the spread of data.

Semester 2 - MA636 Algebra, Measurement & Geometry, Statistics & Probability Consolidation Unit

This unit revisits the strands of Number & Algebra, Measurement & Geometry and Statistics and Probability. The students will cover the same topic areas as MA628/MA635 (Please refer above) **at a level which is appropriate to each student in the unit.**

**mathematics
is not a
spectator
sport**

Assessment

Each Semester the students complete 3 pieces of assessment.

A one period test is held around Week 5/6, this is followed by an extended learning task (completed in class time) for the next 4/5 weeks, and finally, the students sit a two period test at the end of the semester. The first paper is an Understanding and Fluency paper and the second paper is a Problem Solving and Reasoning paper.