Year 9 Mathematics 2019

Mathematics	Year 9

Length: 2 Semesters

Assumed Knowledge:
Year 8 Mathematics

Description:
The Year 9 Mathematics courses address the Australian Curriculum Mathematics content strands of:
- Number and Algebra
- Measurement and Geometry
- Statistics and Probability

For each of the content strands, the course addresses a student's proficiency of their *Understanding, Fluency, Problem Solving and Reasoning.* The proficiencies reinforce the significance of working mathematically within the content and describe how the content is explored or developed. They provide the language to build in the developmental aspects of the learning of mathematics.

By the end of Year 9, students solve problems involving simple interest. They interpret ratio and scale factors in similar figures. Students explain similarity of triangles. They recognise the connections between similarity and the trigonometric ratios. Students compare techniques for collecting data in primary and secondary sources. They make sense of the position of the mean and median in skewed, symmetric and bi-modal displays to describe and interpret data.

Students apply the index laws to numbers and express numbers in scientific notation. They expand binomial expressions. They find the distance between two points on the Cartesian plane and the gradient and midpoint of a line segment. They sketch linear and non-linear relations. Students calculate areas of shapes and the volume and surface area of right prisms and cylinders. They use Pythagoras' Theorem and trigonometry to find unknown sides of right-angled triangles. Students calculate relative frequencies to estimate probabilities, list outcomes for two-step experiments and assign probabilities for those outcomes. They construct histograms and back-to-back stem-and-leaf plots.

A scientific calculator is essential for this course.

Assessment Details:
Any of the following may contribute to the assessment: skills assessment tasks, projects, directed investigations, assignments, writing exercises, journal, work folio, oral reports.

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http://www.australiancurriculum.edu.au