The AusVELS
Curriculum

Domain	Mathematics
Level	Level 9
Dated	Thursday, 25 June 2015

VICTORIAN CURRICULUM
AND ASSESSMENT AUTHORITY

Mathematics

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Level 9

Level 9 achievement standard

Number and Algebra

Students apply the index laws using integer indices to variables and numbers, express numbers in scientific notation, solve problems involving very small and very large numbers, and check the order of magnitude of calculations. They solve problems involving simple interest. Students use the distributive law to expand algebraic expressions, including binomial expressions, and simplify a range of algebraic expressions. They find the distance between two points on the Cartesian plane and the gradient and midpoint of a line segment using a range of strategies including the use of digital technology. Students sketch and draw linear and non-linear relations, solve simple related equations and explain the relationship between the graphical and symbolic forms, with and without the use of digital technology.

Measurement and Geometry

Students solve measurement problems involving perimeter and area of composite shapes, surface area and volume of rectangular prisms and cylinders, with and without the use of digital technology. They relate three-dimensional objects to two-dimensional representations. Students explain similarity of triangles, interpret ratios and scale factors in similar figures, and apply Pythagoras's theorem and trigonometry to solve problems involving angles and lengths in right-angled triangles.

Statistics and Probability

Students compare techniques for collecting data from primary and secondary sources, and identify questions and issues involving different data types. They construct histograms and back-to-back stem-and-leaf plots with and without the use of digital technology. Students identify mean and median in skewed, symmetric and bi-modal displays and use these to describe and interpret the distribution of the data. They calculate relative frequencies to estimate probabilities. Students list outcomes for two-step experiments and assign probabilities for those outcomes and related events.