

Year : 9
Semester: 2

Subject: Mathematics

Week	Topic	Learning Focus	Victorian Curriculum
Term 3 1-3	Trigonometry	Using trigonometric ratios to solve problems.	Investigate Pythagoras' Theorem and its application to solving simple problems involving right angled triangles (<u>VCMMG318</u>) Use similarity to investigate the constancy of the sine, cosine and tangent ratios for a given angle in right-angled triangles (<u>VCMMG319</u>) Apply trigonometry to solve right-angled triangle problems (<u>VCMMG320</u>)
4 - 7	Statistics	Represent data in a back-to-back stem and leaf plot. Draw histograms and describe and comment on the shape of the graph. Analyse and compare data displays using appropriate statistics.	Identify everyday questions and issues involving at least one numerical and at least one categorical variable, and collect data directly from secondary sources (<u>VCMS324</u>) Construct back-to-back stem and leaf plots and histograms and describe data, using terms including 'skewed', 'symmetric' and 'bi modal' (<u>VCMS325</u>) Compare data displays using mean, median and range to describe and interpret numerical data sets in terms on location (centre) and spread (<u>VCMS326</u>)
8 - 10	Solving linear equations and linear graphs	Solving simple equations, solving equations with brackets and solving equations with pronumerals on both sides. Learning how to plot graphs and develop an understanding of a gradient.	Find the distance between two points located on a Cartesian plane using a range of strategies, including graphing software (<u>VCMA308</u>) Find the midpoint and gradient of a line segment (interval) on the Cartesian plane using a range of strategies, including graphing software (<u>VCMA309</u>) Sketch linear graphs using the coordinates of two points and solve linear equations (<u>VCMA310</u>) Graph simple non-linear relations with and without the use of digital

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			technologies and solve simple related equations (VCMNA311)
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Term 4 11 - 12	Solving linear equations and linear graphs	Learning how to plot graphs and develop an understanding of a gradient. Using graphs to solve linear equations	Find the distance between two points located on a Cartesian plane using a range of strategies, including graphing software (VCMNA308) Find the midpoint and gradient of a line segment (interval) on the Cartesian plane using a range of strategies, including graphing software (VCMNA309) Sketch linear graphs using the coordinates of two points and solve linear equations (VCMNA310) Graph simple non-linear relations with and without the use of digital technologies and solve simple related equations (VCMNA311)
13 - 15	Indices, Integers and Scientific Notation	Extend and apply the index laws to variables, using positive integer indices and the zero index. Apply index laws to numerical expressions with integer indices Apply index laws to variables Express numbers in scientific notation	Apply index laws to numerical expressions with integer indices (VCMNA302) Extend and apply the index laws to variables, using positive integer indices and the zero index(VCMNA305)Express numbers in scientific notation (VCMNA303)
16 - 17	Rates and ratio	Develop an understanding of direct proportion and solve simple rate problems.	Solve problems involving direct proportion. Explore the relationship between graphs and equations corresponding to simple rate problems (VCMNA301)
18 - 20	Geometry	Learn about the characteristics of similar triangles and use ratio and scale factors to help find side lengths of similar figures. Learn about Pythagoras and Trigonometry	Use the enlargement transformation to explain similarity and develop the conditions for triangles to be similar (VCMMG316) Solve problems using ratio and scale factors in similar figures (VCMMG317)

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