

2018 YEAR 10 MATHEMATICS CURRICULUM – Semester 2

TERM 3

Week	Topic	Learning Focus	Victorian Curriculum Substrand
1 - 3	Trigonometry	<ul style="list-style-type: none"> • Trigonometric ratios Sine Cosine, Tangent • Find side lengths of a triangle • Find angles in a triangle • Calculate angles of elevation and depression • Bearings • Worded application problems 	Solve right-angled triangle problems including those involving direction and angles of elevation and depression (VCMMG346)
4 – 7	Measurement: Surface Area and Volume	<ul style="list-style-type: none"> • Apply the appropriate surface area formula for 3-dimensional objects. • Apply Heron’s Formula for the area of a triangle. • Calculate the volume of 3-dimensional objects 	-Solve problems involving surface area and volume for a range of prisms, cylinders and composite solids (VCMMG343)
8 - 10	Probability	<ul style="list-style-type: none"> • Define sample space, mutually exclusive, complementary, odds. • Draw and analyse Venn and Tree diagrams. • Differentiate between dependent and independent events • Calculate conditional probability 	Describe the results of two- and three-step chance experiments, both with and without replacements, assign probabilities to outcomes and determine probabilities of events. Investigate the concept of independence (VCMSP347) Use the language of ‘ifthen, ‘given’, ‘of’, ‘knowing that’ to investigate conditional statements and identify common mistakes in interpreting such language (VCMSP348)

TERM 4

Week	Topic	Learning Focus	Substrand
1-4	Linear Graphs	<ul style="list-style-type: none"> • Sketch linear graphs from a table of values. • Calculate the gradient of a line • Sketch linear graphs using the gradient – intercept method • Sketch linear graphs using the x and y intercept method • Determine equations of lines • Calculate the distance between two points • Calculate the midpoint of a line • Define and use gradients to determine parallel and perpendicular lines 	Solve problems involving gradients of parallel and perpendicular lines (VCMNA338)
5 - 7	Simultaneous Equations and Inequalities	<ul style="list-style-type: none"> • Graphical solution of simultaneous equations • Solving simultaneous equations using both substitution and elimination methods • Solve linear inequalities 	Solve simultaneous linear equations, using algebraic and graphical techniques including using digital technology (VCMNA337) Solve linear inequalities and graph their solutions on a number line (VCMNA336)

8-10	*Quadratic Functions or Consumer Mathematics *Students will split into two groups depending on their Year 11 Maths selection (Methods, General, Foundation)	<ul style="list-style-type: none"> • Expanding and factorising algebraic expressions • Completing the square, • Solving quadratic equations OR <ul style="list-style-type: none"> • Purchasing – cash, credit cards, lay-by • Buying on terms • Discounts • Compound interest • Depreciation • Loan repayments 	Describe, interpret and sketch parabolas, hyperbolas, circles and exponential functions and their transformations (VCMNA359) Expand binomial products and factorise monic quadratic expressions using a variety of strategies (VCMNA332) Connect the compound interest formula to repeated applications of simple interest using appropriate digital technologies (VCMNA328)
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