Varsity College
Year 10 Mathematical Methods – Semester 1, 2024

Week	Date	Topics	Assessment
1	**22-26 January** O-Week Australia Day PH Fri	O Week	
2	**29 Jan-2 Feb**	**Algebra** • Recall, define and interpret algebraic terminology • Identify, collect and simplify like terms • Substitute and evaluate expressions • Expand and simplify problems with brackets	
3	**5-9 February** Swimming Carnival - Thurs	• Factorise algebraic expressions • Identify inverse operations and rearrange equations.	
4	**12-16 February**	• Determine the surface area of three-dimensional solids including pyramids, cones and spheres as an application of rearranging equations and substitution.	
5	**19-23 February**	**Index Laws** • Use positive index laws to simplify algebraic expressions $a^m \times a^n = a^{m+n}, a^m \div a^n = a^{m-n}, (a^m)^n = a^{mn} \text{ and } a^0 = 1$ • Use negative index laws to simplify $a^{-m} = \frac{1}{a^m}$ • Use fractional index laws to simplify $a^{\frac{m}{n}} = \sqrt[n]{a^m}$	
6	**26 Feb-1 Mar** GC24 - Wednesday	**Surds** • Add and subtract surd terms by identifying like terms • Simply a surd by finding a square factor	
7	**4-8 March**	• Simplify expressions involving surds using surd laws • Rationalise the denominator of a surd.	
8	**11-15 March**	**Revision**	**EXAM** **Lesson 3**
9	**18-22 March** GC24 - Thursday	**Trigonometry** • Use Pythagoras' theorem to determine the various lengths of a right-angled triangle. • Recall trigonometric ratios and use to solve lengths. • Use trigonometric ratios to solve for angles.	
10	**25-29 March** Good Friday PH	• Use angles of elevation and depression to solve problems. • Solve problems involving bearings.	
	School holidays: Friday March 29 - Sunday April 14		

Term 2, 2024

Week	Date	Topics	Assessment
1	**15-19 April** **Cross Country – Wed**	**Linear Algebra** • Sketch linear equations from: two points; equation; context.	
2	**22-26 April** **GC24 - Tuesday** **Anzac Day PH - Thurs**	• Determine the equation of a line that is parallel or perpendicular to each another line. • Construct a linear model from a worded problem and use model to solve a problem	
3	**29 Apr-3 May**	**Inequalities** • Determine an inequality from a number line. • Solve inequalities by remembering to reverse the inequality sign when multiplying/dividing by a negative.	
4	**6-10 May** **Labour Day PH - Mon**	**Scatterplots** • Describe the correlation found in scatterplots in terms of strength, direction and form. • Develop a linear model to fit data on a scatterplot. • Use a model from a scatterplot to make predictions, and evaluate the reasonableness of these predictions.	
5	**13-17 May**	**Simultaneous Equations** • Determine a simultaneous solution using a graph. • Determine a simultaneous solution using substitution method. • Determine a simultaneous solution using elimination method, with both the same and different coefficients.	
6	**20-24 May**	• Interpret contextual problems, apply knowledge to solve simultaneous equations and evaluate the reasonableness of the solution.	
7	**27-31 May**	**Probability** • Recall and apply probability skills from years 7-9: theoretical probability, experimental probability, complementary events, two-way tables, Venn diagrams and tree diagrams. • Define unions and intersections between sets. • Use set notation and understand how this links to a venn diagram.	
8	**3-7 June**	• Use the addition law for non-mutually exclusive events • Define independent and conditional events, and interpret language in a problem that implies these categories. • Apply the independent events law for intersections to calculate probability of two independent events occurring.	
9	**10-14 June** **GC24 - Wednesday**	• Apply the formula for conditional probability to calculate probabilities of and an event A given that event B has occurred.	
10	**17-21 June** **Athletics Carnival - Thurs**	Exam Shutdown	**SEMESTER EXAM**
School holidays: Saturday June 22 - Sunday July 7			