

Turramurra High School - 2022 - Year 10 5.3/5.2+ - Scope and Sequence

| Term 1 2022 | | | | | | | | | | | | | | | | | | | | | |
|-------------|---------------------|--|---|---|--------|--------|---|--------|--|--------|---------|-----|--|---|--|--|--|--|--|---|--|
| | | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | | | | | | | | | | |
| | | 1/1 | 1/2 | 7/2 | 14/2 | 21/2 | 28/2 | 7/3 | 14/3 | 21/3 | 28/3 | 4/4 | | | | | | | | | |
| SDD 2 | Year 7, 11, 12 only | Topic 1: Algebraic Techniques | Topic 2: Equations and Polynomials | Topic 2: Equations and Polynomials | | | Topic 3: Trigonometry | | Topic 4: Rational Indices, Surds and Logarithms | | | | | | | | | | | | |
| | | MA5.3 1WM, MA5.3 2WM, MA5.3 3WM, MA5.3 5NA | MA5.3 1WM, MA5.3 2WM, MA5.3 3WM, MA5.3 5NA | MA5.3 1WM, MA5.3 2WM, MA5.3 3WM, MA5.3 7NA, MA5.3 10NA | | | MA5.1 10MG, MA5.2 13MG, MA5.3 1WM, MA5.3 2WM, MA5.3 3WM, MA5.3 15MG | | MA5.3 1WM, MA5.3 2WM, MA5.3 3WM, MA5.3 6NA | | | | | | | | | | | | |
| | | <ul style="list-style-type: none"> • Uses algebraic techniques to simplify expressions, expand binomial products and factorise quadratic expressions. | <ul style="list-style-type: none"> • Solve complex linear, quadratic, and simple cubic and rearranges literal equations. • Investigate the concept of a polynomial and apply the four operations to polynomials and simple graphing | <ul style="list-style-type: none"> • Solve complex linear, quadratic, and simple cubic and rearranges literal equations. • Investigate the concept of a polynomial and apply the four operations to polynomials and simple graphing | | | <ul style="list-style-type: none"> • Review Trigonometry from Year 9; finding the length of sides and size of angles and solving angles of elevation/depression and bearings problems. • Applies Pythagoras' theorem and right angles-trigonometric relationships to solve problems involving problems involving three dimensions. • Solves problems in right-angled triangles using the exact sine, cosine and tangent ratios for 30°, 45° and 60°. | | <ul style="list-style-type: none"> • Practice simplifying surds and rationalizing the denominator. • Use integers and fractions for index notation. • Convert between surd and index notation. • Simplify and expand algebraic expressions involving integer and fractional indices Logarithms • Define logarithms as indices: $y = a^x$ is equivalent to $x = \log_a y$, and explain why this definition only makes sense when $a > 0, a \neq 1$ • Manipulates and solves expressions and equations with exponentials using log laws | | | | | | | | | | | | |
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Term 3 2022

| Term 3 2022 | | | | | | | | | | |
|----------------|---|--------|---|--|--------|---|--------|---|--------|---------|
| | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 |
| | 18/7 19/7 | 25/7 | 1/8 | 8/8 | 15/8 | 22/8 | 29/8 | 5/9 | 12/9 | 19/9 |
| S. D. D. | Topic 8: Graphs of Physical Phenomena | | Topic 9: Simultaneous Eqns | Topic 10: Single Variable Data Analysis (A) | | Topic 11: Data Analysis | | Topic 12: Probability | | |
| | MA5.3 1WM, MA5.3 2WM, MA5.3 3WM, MA5.3 4NA | | MA5.3 1WM, MA5.3 2WM, MA5.3 3WM, MA5.3 7NA | MA5.2 15SP, MA5.3 18SP | | MA5.2 1WM, MA5.2 3WM, MA5.2 15SP, MA5.2 16SP, MA5.3 1WM, MA5.3 2WM, MA5.3 19SP | | MA5.2 1WM, MA5.2 2WM, MA5.2 3WM, MA5.1 13SP, MA5.2 17SP | | |
| | <ul style="list-style-type: none"> Solves problems involving direct proportion; explore the relationship between graphs and equations corresponding to simple rate problems. Draws, interprets and analyses graphs of physical phenomena (Note: This topic would suit being done alongside the Linear and non-linear relationships topics) | | <ul style="list-style-type: none"> Review solving simultaneous equations, using algebraic and graphical techniques. Solves simultaneous equations, where one equation is non-linear, using algebraic and graphical techniques, including the use of digital technologies. | <ul style="list-style-type: none"> Compare data displays using mean, median and range to describe and interpret numerical data sets in terms of location (centre) and spread. Determine quartiles and interquartile range, Construct and interpret box plots and use them to compare data sets. Compare shapes of box plots to corresponding histograms and dot plots. | | <ul style="list-style-type: none"> Review constructing and interpreting box plots and using them to compare data sets. Investigate and describe bivariate numerical data where the independent variable is time. Use scatter plots to investigate and comment on relationships between two numerical variables. Use information technologies to investigate bivariate numerical data sets; where appropriate, students use a straight line to describe the relationship, allowing for variation. Investigate reports of studies in digital media and elsewhere for information on their planning and implementation. | | <ul style="list-style-type: none"> Calculates relative frequencies from given or collected data to estimate probabilities of events involving "and" or "or" Interpret and use venn diagrams and two way tables. List all outcomes for two-step experiments, with and without replacement, using tree diagrams or arrays; assign probabilities to outcomes and determine probabilities for events. Describe the results of two- and three-step chance experiments, with and without replacement, assign probabilities to outcomes, and determines probabilities of events; investigate the concept of independence. Use the language of 'if then', 'given', 'of', 'knowing that' to investigate conditional statements and to identify common mistakes in interpreting such language | | |

Term 4 2022

| Term 4 2022 | | | | | | | | | | | | | |
|-------------|---|--------|--|--------|--|--------|------------------------|--|---|--|--|------------|------------------------|
| | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | | |
| 10/10 | 17/10 | 24/10 | 31/10 | 7/11 | 14/11 | 21/11 | 28/11 | 5/12 | 12/12 | 19/12 | 20/12 | | |
| | Topic 13: Financial Mathematics | | Topic 14: Measurement | | Topic 15: Functions | | Work Experience | Topic 15: Functions continued | Topic 16: Geometry | | Topic 17: Congruency and Other Proofs | SDD | School Holidays |
| | MA5.2 1WM, MA5.2 2WM, MA5.2 4NA, MA5.1 5NA | | MA5.3 1WM, MA5.3 2WM, MA5.3 13MG, MA5.3 14MG | | MA5.3-1WM, MA5.3-3WM, MA5.3 12NA | | | MA5.3-1WM, MA5.3-3WM, MA5.3 12NA | MA5.3 1WM, MA5.3 2WM, MA5.3 3WM, MA5.3 16MG | | MA5.2 14MG, MA5.3 3WM, MA5.3 16MG | | |
| | <ul style="list-style-type: none"> Investigates ways of paying for an item and solves simple interest problems that involve buying on terms Connects compound interest to repeated applications of simple interest and establishes then uses the formula for compound interest. Solves problems involving compound interest and depreciation. Solves equations arising from substitution into financial maths formulae. | | <ul style="list-style-type: none"> Solves problems involving the surface area of right pyramids, right cones, spheres and related composite solids. Solves problems involving the volumes of right pyramids, right cones, spheres and related composite solids. Solve problems involving similarity ratios and areas and volumes. | | Describe, interpret and sketch functions | | | Describe, interpret and sketch functions | | <ul style="list-style-type: none"> Uses deductive reasoning in presenting arguments and formal proofs. Proves triangles are similar or congruent, and uses formal geometric reasoning to establish properties of quadrilaterals. | | | |