

## Turramurra High School - 2021-Year 9 5.2/5.1 - Scope and Sequence

### Term 1 - Monday, 1st February to Thursday, 1st April

| Week 1          |       |       | Week 2              |  | Week 3  |  | Week 4   |   | Week 5                      |   | Week 6                                   |   | Week 7                                     |             | Week 8 |  | Week 9 |  | Week 10 |  |  |
|-----------------|-------|-------|---------------------|--|---|--|--|---|-----------------------------|---|--|---|--|-------------|--------|--|--------|--|---------|--|--|
| School holidays | 27/1  | 28/1  | 29/1                | 1/2  | 3/2   | 8/2  | 15/2   | 22/2  | 1/3                         | 8/3   | 15/3                                     | 22/3  | 29/3                                       | Good Friday |        |  |        |  |         |  |  |
|                 | SDD 1 | SDD 2 | Only Yr 7 & seniors | Swimming Carnival  | <b>Topic 1: Indices &amp; Algebraic Techniques</b>    |  | <b>Topic 2: Measurement 1 Perimeter &amp; Area of composite shapes</b> |   | <b>Topic 3: Equations 1</b> |   | <b>Topic 4: Measurement Surface Area</b> |   | <b>Topic 5: Similarity</b>                 |             |        |  |        |  |         |  |  |
|                 |       |       |                     |  | MA5.2 1WM, MA5.2 2WM, MA5.2 3WM, MA5.1 5NA, MA5.2 8NA |  | MA5.1 1WM, MA5.1 2WM, MA5.1 8MG  |   | MA5.2-1WM, MA5.2-8NA        |   | MA5.1 1WM, MA5.1 2WM, MA5.1 8MG          |   | MA5.1-1WM, MA5.1-2WM, MA5.1-3WM, MA5.1-4WM |             |        |  |        |  |         |  |  |
|                 |       |       |                     | <ul style="list-style-type: none"> <li>Apply the addition, subtraction, multiplication, and division operations to algebraic expressions, including the removal of brackets</li> <li>Fully factorise algebraic expressions.</li> <li>Solve linear algebraic equations.</li> <li>Extend and apply the index laws to variables, using positive-integer indices and the zero index.</li> <li>Simplify algebraic products and quotients using index laws.</li> </ul> |   | <ul style="list-style-type: none"> <li>Consolidate and build on the concepts from stage 4 of Pythagoras' Theorem, perimeter, area and volume.</li> <li>Calculate and solves problems involving the area of composite figures.</li> <li>Use significant figures as another method of rounding.</li> </ul> |  | <ul style="list-style-type: none"> <li>Solve linear algebraic equations, involving 1 step, 2 step and equations with grouping symbols.</li> </ul> |                             | <ul style="list-style-type: none"> <li>Review of nets of solids.</li> <li>Review types of solids in particular, what a prism is opposed to a pyramid.</li> <li>Solve problems involving the surface areas of right prisms.</li> </ul> |  | <ul style="list-style-type: none"> <li>Students can use ratio and scale factors to solve problems involving similar figures and scale drawings.</li> <li>Use the enlargement transformation to explain similarity and develop the conditions for</li> </ul> |  |             |        |  |        |  |         |  |  |

### Term 2 - Monday, 19th April to Friday, 25th June

| Week 1                                      |                    | Week 2                                      |   | Week 3  |  | Week 4  |   | Week 5  |   | Week 6 |      | Week 7                |  | Week 8 |  | Week 9 |  | Week 10 |  |
|---|--------------------|---|---|---|--|---|---|---|---|--------|------|-----------------------|--|--------|--|--------|--|---------|--|
| 19/4  |                    | 26/4  |   | 3/5   | 10/5   | 17/5  | 24/5  | 31/5  | 7/6   | 14/6   | 21/6 | Semester 1 Assessment |  |        |  |        |  |         |  |
| <b>Topic 5 cont'd : Similarity</b>          |                    | <b>Topic 6: Trigonometry</b>                |   | <b>Topic 7: Polygons</b>                      |  | <b>Topic 8: Indices &amp; Scientific Notation</b> |   | <b>Topic 8 cont'd : Indices &amp; Scientific Notation</b> |   |        |      |                       |  |        |  |        |  |         |  |
| MA5.1-1WM, MA5.1-2WM, MA5.1-3WM, MA5.1-11MG |                    | MA5.1 1WM, MA5.1 2WM, MA5.1 3WM, MA5.1 10MG |   | MA5.2 1WM, MA5.2 2WM, MA5.2 3WM, MA5.2 1 14MG |  | MA5.1-9MG, MA5.2-1WM, MA5.2-3WM, MA5.2-7NA        |   | MA5.1-9MG, MA5.2-1WM, MA5.2-3WM, MA5.2-7NA                |   |        |      |                       |  |        |  |        |  |         |  |
| S.<br>D.<br>D.                              | Athletics Carnival |   | <ul style="list-style-type: none"> <li>Use similarity to investigate the constancy of the sine, cosine and tangent ratios for a given angle in right-angled triangles Apply trigonometry to solve right-angled triangle problems</li> <li>Apply trigonometry to solve right-angled triangle problems</li> <li>Solve right-angled triangle problems, including those involving angles of elevation and depression</li> </ul> |   | <ul style="list-style-type: none"> <li>Student can use logic and reasoning to solve numerical problems involving plane shapes.</li> <li>Establish results for interior and exterior angles of polygons</li> <li>Apply logic and reasoning to solve simple numerical problems involving plane shapes</li> </ul> |   | <ul style="list-style-type: none"> <li>Student can interpret very small and very large units of measurement, use scientific notation and apply index laws to operate with algebraic expressions involving integer indices</li> <li>Apply index laws to algebraic expressions involving integer indices</li> </ul> |   | <ul style="list-style-type: none"> <li>Investigate very small and very large time scales and intervals</li> <li>Express numbers in scientific notation</li> </ul> |        |      |                       |  |        |  |        |  |         |  |
|   |                    |   |   | NAPLAN  |  |   |   |   |   |        |      |                       |  |        |  |        |  |         |  |

**Term 3 - Monday, 12th July to Friday, 17th September**

|                | Week 1   | Week 2 | Week 3 | Week 4  | Week 5   | Week 6  | Week 7  | Week 8  | Week 9 | Week 10 |
|----------------|--|--------|--------|---|--|---|---|---|--------|---------|
| 12/7           |  | 19/7   | 26/7   | 2/8   | 9/8  | 16/8  | 23/8  | 30/8  | 6/9    | 13/9    |
| S.<br>D.<br>D. | <b>Topic 9: Linear Relationships</b>   |        |        | <b>Topic 10: Algebraic Fractions</b>  | <b>Topic 11: Rates review</b>  | <b>Topic 12: Single Variable Data</b>   | <b>Topic 13: Direct Proportion</b>  | <b>Topic 14: Single Variable Data Analysis 2</b>  |        |         |
|                | MA5.1 1WM, MA5.1 3WM, MA5.1 6NA, MA5.2 1WM, MA5.2 3WM, MA5.2 9NA   |        |        | MA5.2 1WM, MA5.2 3WM, MA5.2 6NA   | MA5.2 1WM, MA5.2 2WM   | MA4-20SP  | MA5.2 1WM, MA5.2 2WM, MA5.2-5NA   | MA5.1-1WM, MA5.1-2WM, MA5.1-3WM, MA5.1-12SP, MA5.2-1WM, MA5.2-3WM, MA5.2-15SP   |        |         |
|                | Find the midpoint and gradient of a line segment (interval) on the Cartesian plane using a range of strategies, including graphing software<br><br>Find the distance between two points located on the Cartesian plane using a range of strategies, including graphing software<br><br>Sketch linear graphs using the coordinates of two points<br><br>Solve problems involving parallel lines<br><br>Interpret and graph linear relationships using the gradient-intercept form of the equation of a straight line<br><br>Solve problems involving parallel and perpendicular lines |        |        | Students can simplify algebraic expressions involving fractions.<br>• Apply the four operations to simple algebraic fractions with numerical denominators<br>• Apply the four operations to algebraic fractions with pronumerals in the denominator | Review rates concepts and travel graphs<br>Students can recognise direct and indirect proportion, and solve problems involving direct proportion.<br>• Solve problems involving direct proportion; explore the relationship between graphs and equations corresponding to simple rate problems | • Review the types of data<br>• Calculate mean, median, mode and range for sets of data and interpret these statistics in the context of data | Students can recognise direct and indirect proportion, and solve problems involving direct proportion.<br>• Solve problems involving direct proportion; explore the relationship between graphs and equations corresponding to simple rate problems | • Students can use quartiles and box plots to compare sets of data, and evaluates sources of data.<br>• Compare data displays using mean, median and range to describe and interpret numerical data sets in terms of location (centre) and spread.<br>• Determine quartiles and interquartile range.<br>• Construct and interpret box plots and use them to compare data sets.<br>• Compare shapes of box plots to corresponding histograms and dot plots.<br>• Investigate reports of surveys in digital media and elsewhere for information on how data was obtained to estimate population means and medians |        |         |
|                |  |        | 1      |   |  |   |   |   |        |         |

**Term 4 - Monday, 4th October to Thursday, 16th December**

|                | Week 1   | Week 2   | Week 3   | Week 4 | Week 5                 | Week 6  | Week 7                 | Week 8  | Week 9   | Week 10 | Week 11   |
|----------------|--|--|--|--------|------------------------|---|------------------------|---|--|---------|---|
| 4/10           |  | 11/10  | 18/10  | 25/10  | 1/11                   | 8/11  | 15/11                  | 22/11   | 29/11  | 6/12    | 13/12   |
| Public Holiday | <b>Topic 14 cont'd: Single Variable Data Analysis 2</b>  | <b>Topic 15: Percentages (Financial Maths)</b>   | <b>Topic 16: Financial Maths</b>   |        | <b>Assessment Week</b> | <b>Topic 16 cont'd: Financial Maths</b>   | <b>Urban Challenge</b> | <b>Topic 17: Equations</b>                      | <b>Topic 18: Numbers of any magnitude</b>  |         | <b>If time, start on Year 10 Algebraic Techniques</b> |
|                | MA5.1-1WM, MA5.1-2WM, MA5.1-3WM, MA5.1-12SP, MA5.2-1WM, MA5.2-3WM, MA5.2-15SP  | MA4-5NA, MA4-1WM, MA4-2WM, MA4-3WM   | MA5.1-1WM, MA5.1-2WM, MA5.1-3WM, MA5.1-4NA   |        |                        | MA4-5NA, MA4-1WM, MA4-2WM, MA4-3WM  |                        | MA5.2 1WM, MA5.2 3WM,                           | MA5.1-1WM, MA5.1-2WM, MA5.1-3WM, MA5.1-9MG   |         |   |
|                | • Students can use quartiles and box plots to compare sets of data, and evaluates sources of data.<br>• Compare data displays using mean, median and range to describe and interpret numerical data sets in terms of location (centre) and spread.<br>• Determine quartiles and interquartile range,<br>• Construct and interpret box plots and use them to compare data sets.<br>• Compare shapes of box plots to corresponding | • Find percentages of quantities and express one quantity as a percentage of another, with and without the use of digital technologies.<br>• Solve problems involving the use of percentages, including percentage increases and decreases, with and without the use of digital technologies | Students can solve financial mathematics problems involving earning money.<br>• Solve problems involving earning money.<br>• Solve problems involving simple interest.<br>• Solve equations arising from substitution into formulae. |        |                        | • Students can solve financial mathematics problems involving earning money.<br>• Solve problems involving simple interest.<br>• Solve equations arising from substitution into formulae. |                        | Solves algebraic equations involving fractions. | • Investigate very small and very large time scales and intervals<br>• Describe limits of accuracy |         |   |
|                |  |  |  |        |                        |   |                        |   |  |         |   |

SDD