

2017 Mathematics Yr8 Semester 2

Term 3

| Week | Unit | Learning Focus | Substrand |
|------|-------------|---|--|
| 1-3 | Algebra | <ul style="list-style-type: none"> - Simplify algebraic expressions involving the four operations - Extend and apply the distributive law to the expansion of algebraic expressions - Factorise algebraic expressions by identifying numerical factors | <ul style="list-style-type: none"> - Extend and apply the distributive law to the expansion of algebraic expressions (VCMNA279) - Factorise algebraic expressions by identifying numerical factors (VCMNA280) - Simplify algebraic expressions involving the four operations (VCMNA281) - Use algorithms and related testing procedures to identify and correct errors (VCMNA282) |
| 4-6 | Measurement | <ul style="list-style-type: none"> - Converting units of measurement for area and volume - Finding perimeters and areas of parallelograms, trapeziums, rhombuses and kites - Investigating circles and finding circumference and area - Calculating volumes for rectangular and triangular prisms | <ul style="list-style-type: none"> - Choose appropriate units of measurement for area and volume and convert from one unit to another (VCMMG286) - Find perimeters and areas of parallelograms, trapeziums, rhombuses and kites (VCMMG287) - Investigate the relationship between features of circles such as circumference, area, radius and diameter. Use formulas to solve problems involving determining radius, diameter, circumference and area from each other (VCMMG288) - Develop the formulas for volumes of rectangular and triangular prisms and prisms in general. Use formulas to solve problems involving volume (VCMMG289) - Solve problems involving duration, including using 12- and 24-hour time within a single time zone (VCMMG290) |
| 7-9 | Chance | <ul style="list-style-type: none"> - Using numbers to represent the likelihood of certain events taking place - Learning the language of probability and using tree and Venn diagrams to show outcomes and relationships between different groups | <ul style="list-style-type: none"> - Identify complementary events and use the sum of probabilities to solve problems (VCMSP294) - Describe events using language of 'at least', exclusive 'or' (A or B but not both), inclusive 'or' (A or B or both) and 'and' (VCMSP295) - Represent events in two-way tables and Venn diagrams and solve related problems (VCMSP296) |

Term 4

| Week | Unit | Learning Focus | Substrand |
|-------------|------------------|---|--|
| 1 | Index Laws | <ul style="list-style-type: none">- Learning the first, second, third and fourth Index Law including the zero index | <ul style="list-style-type: none">- Use index notation with numbers to establish the index laws with positive integral indices and the zero index (VCMNA272) |
| 2 | Financial Maths | <ul style="list-style-type: none">- Investigate and calculate best buys and solve problems involving profit and loss | <ul style="list-style-type: none">- Solve problems involving profit and loss, with and without digital technologies (VCMNA278) |
| 3-4 | Linear equations | <ul style="list-style-type: none">- Solving one and two step equations- Checking answers with substitution | <ul style="list-style-type: none">- Solve linear equations using algebraic and graphical techniques. Verify solutions by substitution (VCMNA284) |
| 5-7 | Linear graphs | <ul style="list-style-type: none">- Solve linear equations using algebraic and graphical techniques and verify solutions using substitution | <ul style="list-style-type: none">- Plot linear relationships on the Cartesian plane with and without the use of digital technologies (VCMNA283)- Plot graphs of non-linear real life data with and without the use of digital technologies, and interpret and analyse these graphs (VCMNA285) |
| 8-10 | Geometry | <ul style="list-style-type: none">- Develop an understanding of congruence of plane shapes and triangles- Use this knowledge to problem solve and to find unknown lengths and angles of triangles and quadrilaterals | <ul style="list-style-type: none">- Define congruence of plane shapes using transformations and use transformations of congruent shapes to produce regular patterns in the plan including tessellations with and without the use of digital technology (VCMMG291)- Develop the conditions for congruence of triangles (VCMMG292)- Establish properties of quadrilaterals using congruent triangles and angle properties, and solve related numerical problems using reasoning (VCMMG293) |