

Year: Year 10

Subject: Mathematics



| Term | Week | Focus | Summary | Learning Outcomes | Learning skills |
|----------|------|------------------------------------|-------------------------------------|---|--|
| Term 2.1 | 1 | Sequences, Equations and Graphs | Quadratic Functions | Understanding of basic quadratic functions and their graphs. Be able to make links between factorised form and roots. | AutomaticityMeta-cognitionResilience |
| | 2 | Sequences, Equations and Graphs | Quadratic Functions | Understand and interpret the quadratic formula by identifying a, b and c and substituting in correctly; Be able to find roots in surd form and rounded; Be able to find roots in surd form and rounded. | Critical and logical thinking Precision Intellectual playfulness |
| | 3 | Sequences, Equations and Graphs | Quadratic Functions | Be able to complete and square and use the solution to find the minimum and maximum on a graph. | Speed and accuracyAutomaticityFlexible thinking |
| | 4 | Sequences, Equations and Graphs | Perpendicular and Parallel Lines | Understanding of gradient and y- intercept. Be able to identify parallel lines, including needing to rearrange first. | OriginalityFluent thinkingGeneralisation |
| | 5 | Sequences, Equations and Graphs | Perpendicular and Parallel Lines | Be able to find the equation of a line given two points and a parallel line. Explore the relationship between gradients of perpendicular lines | Strategy planningConnection findingSelf-regulation |
| | 6 | Sequences, Equations and Graphs | Perpendicular and Parallel Lines | Compute the equation of a line given two points and a perpendicular line. Be able to identify parallel and perpendicular lines graphically and be able to sketch them. | Critical and logical thinking Precision Intellectual playfulness |



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| Term 2.2 | 1 | Sequences, Equations and Graphs | Quadratic Simultaneous Equations | Identify when simultaneous equations will have one, two or no solutions using a sketch.; Look at simultaneous equations with one linear and one quadratic and use substitution to find solutions. | Problem solvingFluent thinkingGeneralisation |
|----------|---|------------------------------------|-------------------------------------|--|--|
| | 2 | Sequences, Equations and Graphs | Quadratic Simultaneous Equations | Form and solve simultaneous equations from worded problems. | Strategy planningConnection findingSelf-regulation |
| | 3 | Sequences, Equations and Graphs | Inequalities | Construct and solve linear inequalities with integer or fractional coefficients, with or without brackets and negatives which will result in a positive or negative solution; Solve linear inequalities graphically. | Big picture thinkingHard workingSelf-regulation |
| | 4 | Sequences, Equations and Graphs | Inequalities | Solve quadratic inequalities by factorising and sketching the graph to find critical values. | Problem solvingStrategy planningMeta-cognition |
| | 5 | Sequences, Equations and Graphs | Changing subject of Formula | Changing the subject of a formula involving 1,2 or multiple steps (include powers, roots and fractions). | AbstractionProblem solvingGeneralisation |