

Stage 2 Mathematical Methods: Overview 2019

Teacher: Kathy Keenan

Students demonstrate their learning through six Skills and Applications Tasks (50%) and one Mathematical Investigation (20%) for the school assessment, and a three-hour external exam at the end of the year (30%).

Term 1	Topics	Assessment Tasks
Weeks 1-11	<p><u>TOPIC 1: Further Differentiation and Applications</u></p> <p>Subtopic 1.1: Introductory Differential Calculus Subtopic 1.2: Differentiation Rules Subtopic 1.3: Exponential Functions Subtopic 1.4: Trigonometric Functions Subtopic 1.5: The Second Derivative</p>	<p>SAT 1 Differential Calculus Test (subtopics 1.1-1.3)</p> <p>Part 1 - No calculators or notes 30 minutes</p> <p>Part 2 -Calculator permitted One side of an A4 page of handwritten notes permitted. SACE formula sheet provided 30 minutes</p> <p>SAT 2 Applications of Differential Calculus Test (subtopics 1.4-1.5) (RC5) Calculator permitted One side of an A4 page of handwritten notes permitted. SACE formula sheet provided. 60 minutes</p> <p>Mathematical Investigation 1 Transportation Calculus Maximum of 15 single-sided A4 pages. Mathematical Investigation report format.</p>

Term 2	Topics	Assessment Tasks
Weeks 1-3	<p><u>TOPIC 4: Logarithmic Functions</u></p> <p>Subtopic 4.1: Using Logarithms for Solving Exponential Equations Subtopic 4.2: Logarithmic Functions and their Graphs Subtopic 4.3: Calculus of Logarithmic Functions</p>	<p>SAT 3 Logarithmic Functions Test Calculator permitted One side of an A4 page of handwritten notes permitted. SACE formula sheet provided. 60 minutes</p>
Weeks 4-9	<p><u>TOPIC 3: Integral Calculus</u></p> <p>Subtopic 3.1: Anti-differentiation Subtopic 3.2: The Area under Curves</p>	<p>SAT 4 Integral Calculus Test (RC5)</p>

<p>T2 week 10 Term 3 Weeks 1-3</p>	<p>Subtopic 3.3: Fundamental Theorem of Calculus Subtopic 3.4: Applications of Integration</p> <p><u>TOPIC 2: Discrete Random Variables</u></p> <p>Subtopic 2.1: Discrete Random Variables Subtopic 2.2: The Bernoulli Distribution Subtopic 2.3: Repeated Bernoulli Trials and the Binomial Distribution</p>	<p>Part 1 - No calculators or notes 30 minutes</p> <p>Part 2 -Calculator permitted One side of an A4 page of handwritten notes permitted. SACE formula sheet provided 30 minutes</p> <p>SAT 5</p> <p>Discrete Random Variables Test</p> <p>Calculator permitted One side of an A4 page of handwritten notes permitted. SACE formula sheet provided. 60 minutes</p>
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Term 3	Topics	Assessment Tasks
<p>Weeks 4 – 7</p> <p>Weeks 8-10</p>	<p><u>TOPIC 5: Continuous Random Variables and the Normal Distribution</u></p> <p>Subtopic 5.1: Continuous Random Variables Subtopic 5.2: Normal Distributions Subtopic 5.3: Sampling</p> <p><u>TOPIC 6: Sampling and Confidence Intervals</u></p> <p>Topic 6.1: Confidence Intervals for Population Mean Subtopic 6.2: Population Proportions Subtopic 6.3: Confidence Intervals for Population Proportions</p>	<p>SAT 6</p> <p>Statistics Test (subtopics 5.1-5.3 and 6.1-6.3)</p> <p>Calculator permitted One side of an A4 page of handwritten notes permitted. SACE formula sheet provided. 60 minutes</p>
<p>Term 4 Weeks 1-3</p>	<p><u>Exam Revision on ALL 6 topics</u></p>	
<p>Week 4</p>		<p>Tuesday 5th November 2019 1.30pm (190 minutes) External 3 hour exam on all 6 topics. Access to electronic technology required. Students may refer to two unfolded A4 sheet (four sides) of hand-written notes. A formula sheet is included in the examination booklet.</p>