



Year 12 Mathematics Extension 1 Assessment Task 2 – 2025

TOPICS: Binomial Distributions and Mathematical Induction	MARKS: 30	
SUBMISSION REQUIREMENTS: Written test to be completed in class on Monday 24th March 2025 (Period 0)	WEIGHTING: 20%	COMPONENTS: Concepts, Skills and Technologies 10% Reasoning and Communication 10%

<p>TASK DESCRIPTION: An in-class written test consisting of:</p> <ul style="list-style-type: none"> • 5 short answer questions on Binomial Distributions totalling 21 marks of the total marks • 3 short answer questions on Mathematical Induction totalling 9 marks of the total marks <p>Time allowed for the task will be 1 hour.</p> <p>A HSC (NESA) formula sheet will be provided.</p> <p><u>No notes or books can be used during the exam.</u></p> <p>Equipment required: Calculator - Ruler - Pen - Pencil - Eraser</p>
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<p>OUTCOMES TO BE ASSESSED: ME12-1 Applies techniques involving proof or calculus to model and solve problems. ME12-5 Applies appropriate statistical processes to present, analyse and interpret data.</p>
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<p>Directional Verbs: Apply – Use, utilise, employ in a particular situation</p>

<p>ASSESSMENT CRITERIA: You will be marked on your ability to answer the questions correctly. Show relevant mathematical working, reasoning and/or calculations. You are encouraged to revise the following concepts learnt in class.</p>
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Binomial Distributions	Mathematical Induction
Bernoulli distributions	Proof by mathematical induction
Binomial distributions	
Mean and variance of a binomial distribution	
Sample proportions	