### DRAFT PERFORMANCE BANDS

#### MATHEMATICS EXTENSION 1

*The typical performance in this band:*

<table>
<thead>
<tr>
<th>Band</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Band E4** | • Exhibits extensive knowledge and skills appropriate to the Mathematics and Mathematics Extension 1 courses  
• Synthesises mathematical techniques, results and ideas creatively across the Mathematics and Mathematics Extension 1 courses to solve difficult problems  
• Uses sophisticated multi-step mathematical reasoning  
• Interprets, explains, justifies and evaluates solutions to problems  
• Translates efficiently between practical problems and their mathematical model  
• Communicates complex ideas and arguments effectively using appropriate mathematical language, notation, diagrams and graphs |
| **Band E3** | • Exhibits knowledge and skills appropriate to the Mathematics and Mathematics Extension 1 courses  
• Synthesises mathematical techniques, results and ideas from across the Mathematics and Mathematics Extension 1 courses to solve problems in areas such as geometry, calculus and probability  
• Uses multi-step mathematical reasoning such as mathematical induction  
• Translates between practical problems and their mathematical model in areas such as projectile motion  
• Communicates effectively using appropriate mathematical language, notation, diagrams and graphs |
| **Band E2** | • Exhibits knowledge of the techniques of the Mathematics and Mathematics Extension 1 courses  
• Uses techniques of integration from the Mathematics Extension 1 course such as integration by substitution  
• Uses logical reasoning in numerical contexts such as problems in algebra and geometry  
• Applies calculus to solve practical problems  
• Communicates using mathematical language, notation, diagrams and graphs |
| **Band E1** | |