VCE Specialist Mathematics

Unit 4: Modelling or problem-solving task 1 (25 marks) – sample assessment record

**Outcome 1 (8 marks)** *Define and explain key concepts as specified in the content from the areas of study and apply a range of related mathematical routines and procedures*.

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| **Criterion** | **Marks** | **1** | **2** | **3** | **4** | **5** |
| Appropriate use of mathematical conventions, symbols, and terminology |  |  |  |  |  |
| Definition and explanation of key concepts |  |  |  |  |  |
| Accurate use of mathematical skills and techniques |  |  |  |  |  |
|  | **Outcome 1 Total** |  |

**Outcome 2 (10 marks)** *Apply mathematical processes in non-routine contexts, including situations with some open-ended aspects requiring problem-solving, modelling, or investigative techniques or approaches, and analyse and discuss these applications of mathematics.*

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|  **Criterion** | **Marks** | **1** | **2** | **3** | **4** | **5** |
| Identification of important information, variables, and constraints |  |  |  |  |  |
| Application of mathematical ideas and content from the specified areas of study |  |  |  |  |  |
| Analysis and interpretation of results |  |  |  |  |  |
|  | **Outcome 2 Total** |  |

**Outcome 3 (7 marks)** *Apply computational thinking and use numerical, graphical, symbolic, and statistical functionalities of technology to develop mathematical ideas, produce results and carry out analysis in situations requiring problem-solving, modelling, or investigative techniques or approaches.*

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| **Criterion** | **Marks** | **1** | **2** | **3** | **4** | **5** |
| Appropriate selection and effective use of technology |  |  |  |  |  |
| Application of technology |  |  |  |  |  |
|  | **Outcome 3 Total** |  |
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|  | **Task Total** |  |

**Note**: one of the two modelling or problem-solving tasks is to be related to the ‘Data analysis, probability and statistics’ area of study.

Unit 4: Modelling or problem-solving task 1 (25 marks) – pointers for assessment

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| **Outcome 1 (8 marks)** *Define and explain key concepts as specified in the content from the areas of study and apply a range of related mathematical routines and procedures.*  |
| **Criterion 1 (0–2 marks)** Appropriate use of mathematical conventions, symbols, and terminology  |
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| **Criterion 2 (0–3 marks)** Definition and explanation of key concepts  |
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| **Criterion 3 (0–3 marks)** Accurate use of mathematical skills and techniques  |
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| **Outcome 2 (10 marks)** *Apply mathematical processes in non-routine contexts, including situations with some open-ended aspects requiring problem-solving, modelling, or investigative techniques or approaches, and analyse and discuss these applications of mathematics.* |
| **Criterion 1 (0–2 marks)** Identification of important information, variables, and constraints |
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| **Criterion 2 (0–4 marks)** Definition and explanation of key concepts  |
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| **Criterion 3 (0–4 marks)** Accurate use of mathematical skills and techniques  |
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| **Outcome 3 (7 marks)***Apply computational thinking and use numerical, graphical, symbolic, and statistical functionalities of technology to develop mathematical ideas, produce results and carry out analysis in situations requiring problem-solving, modelling, or investigative techniques or approaches.* |
| **Criterion 1 (0–3 marks)** Appropriate selection and effective use of technology |
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| **Criterion 2 (0–4 marks)** Application of technology |
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**Notes:**

* one of the two modelling or problem-solving tasks is to be related to the ‘Data analysis, probability and statistics’ area of study
* the number of pointers can be varied as applicable to the task.