#### Mathematics Standard 1 2023-2024

| **Task number** | **Task 1** | **Task 2** | **Task 3** | **Task 4** |  |
| --- | --- | --- | --- | --- | --- |
| **Nature of tasks** | **In-class open book test**  Topics  F1, F2, M5 | **Assignment/ investigation**  Topics  M5, N1 | **Assignment/**  **Investigation**  Topics  F1, F2, F3 | **Trial HSC Examination**  Topics  A3.1, M3, M4, M5, F2, F3, S3, N1 |
| **Timing** | Term 4,  Week 9 | Term 1,  Week 8 | Term 2,  Week 7 | Term 3,  Weeks 4-5 |
| **Outcomes assessed** | MS1-12-3  MS1-12-4  MS1-12-5  MS1-12-10 | MS1-12-2  MS1-12-8  MS1-12-9  MS1-12-10 | MS1-12-5  MS1-12-9  MS1-12-10 | MS1-12-1  MS1-12-2  MS1-12-3  MS1-12-4  MS1-12-5  MS1-12-6  MS1-12-7  MS1-12-8  MS1-12-10 |
| **Component** |  | | | | **Weighting %** |
| Understanding, Fluency and Communicating | 10 | 15 | 15 | 10 | **50** |
| Problem Solving, Reasoning and Justification | 10 | 15 | 15 | 10 | **50** |
| **Total %** | **20** | **30** | **30** | **20** | **100** |

**Outcomes:**

**MS1-12-1** uses algebraic and graphical techniques to evaluate and construct arguments in a range of familiar and unfamiliar contexts

**MS1-12-2** analyses representations of data in order to make predictions and draw conclusions

**MS1-12-3** interprets the results of measurements and calculations and makes judgements about their reasonableness

**MS1-12-4** analyses simple two-dimensional and three-dimensional models to solve practical problems

**MS1-12-5** makes informed decisions about financial situations likely to be encountered post-school

**MS1-12-6** represents the relationships between changing quantities in algebraic and graphical forms

**MS1-12-7** solves problems requiring statistical processes

**MS1-12-8** applies network techniques to solve network problems

**MS1-12-9** chooses and uses appropriate technology effectively and recognises appropriate times for such use

**MS1-12-10** uses mathematical argument and reasoning to evaluate conclusions, communicating a position clearly to others

#### Mathematics Standard 2 2023-2024

| **Task number** | **Task 1** | **Task 2** | **Task 3** | **Task 4** |  |
| --- | --- | --- | --- | --- | --- |
| **Nature of tasks** | **In-class open book test**  Topics  F4.1,F4.2, M7 | **Assignment/ investigation**  Topics  M7, N2 | **in-class test**  Topics  F4, F5, M6, M7, S4 | **Trial HSC Examination**  Topics  A4, M6, M7, F4, F5, S4, S5, N2 |
| **Timing** | Term 4,  Week 9 | Term 1,  Week 8 | Term 2,  Week 7 | Term 3,  Weeks 4–5 |
| **Outcomes assessed** | MS2-12-3  MS2-12-4  MS2-12-5  MS2-12-10 | MS2-12-3  MS2-12-4  MS2-12-8  MS2-12-9  MS2-12-10 | MS2-12-1  MS2-12-2  MS2-12-3  MS2-12-5  MS2-12-6  MS2-12-7  MS2-12-10 | MS2-12-1 to  MS2-12-10 |
| **Component** |  | | | | **Weighting %** |
| Understanding, Fluency and Communicating | 10 | 15 | 10 | 15 | **50** |
| Problem Solving, Reasoning and Justification | 10 | 15 | 10 | 15 | **50** |
| **Total %** | **20** | **30** | **20** | **30** | **100** |

**Outcomes:**

**MS2-12-1** uses detailed algebraic and graphical techniques to critically evaluate and construct arguments in a range of familiar and unfamiliar contexts

**MS2-12-2** analyses representations of data in order to make inferences, predictions and draw conclusions

**MS2-12-3** interprets the results of measurements and calculations and makes judgements about their reasonableness, including the degree of accuracy and the conversion of units where appropriate

**MS2-12-4** analyses two-dimensional and three-dimensional models to solve practical problems

**MS2-12-5** makes informed decisions about financial situations, including annuities and loan repayments

**MS2-12-6** solves problems by representing the relationships between changing quantities in algebraic and graphical forms

**MS2-12-7** solves problems requiring statistical processes, including the use of the normal distribution and the correlation of bivariate data

**MS2-12-8** solves problems using networks to model decision-making in practical problems

**MS2-12-9** chooses and uses appropriate technology effectively in a range of contexts, and applies critical thinking to recognise appropriate times and methods for such use

**MS2-12-10** uses mathematical argument and reasoning to evaluate conclusions, communicating a position clearly to others and justifying a response

#### Mathematics Advanced 2023-2024

| **Task number** | **Task 1** | **Task 2** | **Task 3** | **Task 4** |  |
| --- | --- | --- | --- | --- | --- |
| **Nature of tasks** | **Open book Test**  Topics:  S1, M1 | **Topic Test**  Topics:  T3, C2, C3 | **Assignment/ Investigation**  Topics:  C4, S2 | **Trial HSC examination**  Topics:  F2, T3, C2, C3, C4, M1, S2, S3 |
| **Timing** | Term 4,  Week 9 | Term 1,  Week 8 | Term 2,  Week 8 | Term 3,  Week 4-5 |
| **Outcomes assessed** | MA11-7  MA12-4  MA12-9  MA12-10 | MA12-1  MA12-3  MA12-5  MA12-6  MA12-10 | MA12-3  MA12-6  MA12-7  MA12-8  MA12-9  MA12-10 | MA12-1  MA12-2  MA12-3  MA12-4  MA12-5  MA12-6  MA12-7  MA12-8  MA12-10 |
| **Component** |  | | | | **Weighting %** |
| Understanding, Fluency and Communicating | 10 | 15 | 10 | 15 | **50** |
| Problem Solving, Reasoning and Justification | 10 | 15 | 10 | 15 | **50** |
| **Total %** | **20** | **30** | **20** | **30** | **100** |

**Outcomes:**

**MA12-1** uses detailed algebraic and graphical techniques to critically construct, model and evaluate arguments in a range of familiar and unfamiliar contexts

**MA12-2** models and solves problems and makes informed decisions about financial situations using mathematical reasoning and techniques

**MA12-3** applies calculus techniques to model and solve problems

**MA12-4** applies the concepts and techniques of arithmetic and geometric sequences and series in the solution of problems

**MA12-5** applies the concepts and techniques of periodic functions in the solution of problems involving trigonometric graphs

**MA12-6** applies appropriate differentiation methods to solve problems

**MA12-7** applies the concepts and techniques of indefinite and definite integrals in the solution of problems

**MA12-8** solves problems using appropriate statistical processes

**MA12-9** chooses and uses appropriate technology effectively in a range of contexts, models and applies critical thinking to recognise appropriate times for such use

**MA12-10** constructs arguments to prove and justify results and provides reasoning to support conclusions which are appropriate to the context

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#### Mathematics Extension 1 2023-2024

| **Task number** | **Task 1** | **Task 2** | **Task 3** | **Task 4** |  |
| --- | --- | --- | --- | --- | --- |
| **Nature of tasks** | **Topic Test**  Topic:  P1 | **Open book Class Test**  Topic:  P1, V1, T3, C2, C3 | **Assignment/ Investigation**  Topic:  V1, C3, S1 | **Trial HSC Examination**  Topics:  P1, V1, T3, C2, C3, S1 |
| **Timing** | Term 4, Week 7 | Term 1, Week 6 | Term 2,  Week 6 | Term 3,  Week 4-5 |
| **Outcomes assessed** | ME12-1  ME12-6  ME12-7 | ME12-1  ME12-2  ME12-3  ME12-7 | ME12-2  ME12-4  ME12-6  ME12-7 | ME12-1  ME12-2  ME12-3  ME12-4  ME12-5  ME12-6  ME12-7 |
| **Component** |  | | | | **Weighting %** |
| Understanding, Fluency and Communicating | 8 | 15 | 15 | 12 | **50** |
| Problem Solving, Reasoning and Justification | 7 | 15 | 15 | 13 | **50** |
| **Total %** | **15** | **30** | **30** | **25** | **100** |

**Outcomes:**

**ME12-1** applies techniques involving proof or calculus to model and solve problems

**ME12-2** applies concepts and techniques involving vectors and projectiles to solve problems

**ME12-3** applies advanced concepts and techniques in simplifying expressions involving compound angles and solving trigonometric equations

**ME12-4** uses calculus in the solution of applied problems, including differential equations and volumes of solids of revolution

**ME12-5** applies appropriate statistical processes to present, analyse and interpret data

**ME12-6** chooses and uses appropriate technology to solve problems in a range of contexts

**ME12-7** evaluates and justifies conclusions, communicating a position clearly in appropriate mathematical forms

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