



Year 11 Standard Mathematics

Task 2: Half Yearly Exam

Due Date: 1st May 2024

Task Distributed: 3rd April 2024

Unit: Relative Frequency & Probability, Earning & Managing Money, Algebra and Equations

Task Type: Formal Examination

Task Weighting: 0% (100% of Semester 1 Report)

Outcomes: MA11-1, MA11-2, MA11-5, MA11-6, MA11-8, MA11-9, MA11-10

Task Description Duration: 90 minutes

This exam will be done in the school exam period in the hall

You will have 90 minutes, plus 10 minutes reading time to complete the examination

This exam will consist of two sections.

- **Section 1:** 10 multiple choice questions worth one mark each covering a range of the units listed above.
- **Section 2:** A mixture of short and long response questions worth one mark or more.

Your knowledge, skills and understanding in the following areas can be assessed in this examination:

Relative Frequency & Probability

- Determine the probability of single events, multi stage events, and the complement of events
- Determine total number of outcomes and sample space
- Use relative frequency as an estimate for probability
- Construct and interpret tables, tree diagrams and probability trees
- Apply the product and addition rule to multistage events.

Earning & Managing Money

- Solve problems involving earnings:
 - wages and salaries, commission, piecework, royalties and allowances; government allowances, leave loading.
- Solve problems involving taxation:
 - gross/net income, GST, taxable income, tax payable, PAYG tax and Medicare levy.

Algebra and Equations

- Demonstrate algebraic skills including the substitution of values into a formula.
- Solving algebraic equations including equations with fractions
- Calculate and interpret blood alcohol content (BAC)
- Solve problems involving blood alcohol and describe limitations of methods estimating BAC
- Solving problems involving formulae, including but not limited to calculating distance, speed and time
- Calculate required medication dosage for children and adults from packets, given age or weight, using Fried's formula, Young's formula or Clark's formula as appropriate.

As this is an examination you will need to prepare for this task by:

- Making summary notes of each topic listed above (mind map, flow chart, dot points).
- Accessing practice past papers on Moodle.
- Regularly completing practice examination questions.
- Seeking teacher assistance on unclear work.
- Ensuring all set work is up to date.

NESA Glossary of Key Words

Understand the verb associated with the task. The verb will provide an understanding of the detail needed to successfully answer the question.

- **Calculate** - Provide a numerical answer
- **Evaluate** - Determine the value of
- **Identify** - Recognise and name
- **Prove / Show** - Provide all algebraic steps and working in a logical sequence
- **Simplify** - Write an expression in its simplest form
- **Solve** - Use algebraic techniques to find a solution

Check the NESA Glossary of Key Words for further guidance <https://educationstandards.nsw.edu.au/wps/portal/nesa/11-12/hsc/hsc-student-guide/glossary-keywords>

Details of Submission

For successful completion of this assessment, you must have the following equipment:

- Board approved calculator
- Pencil, eraser and ruler for graphs and diagrams
- Blue or black pen

Students are NOT permitted to bring an electronic device into the exam.

Teacher Feedback and Student Self-Reflection

- The task will typically be returned to students within 14 days of the due date.
- At this time feedback including information on how to improve will be provided through analysis of the examination questions as a class discussion. Explanation will be provided as requested.
- Students can clarify or seek further feedback by speaking with their teacher or the assessment marker.

Upon return of the task, students will also be expected to complete a self-reflection. This will require students to review incorrect responses by seeking clarification from the teacher. Additionally, students will be required to complete a survey in reflection of the examination.

How does this link to my learning?

- The structure of the questioning style in this task will mirror that of the HSC examination.
- This task will be used by you and your teachers to assess your knowledge and understanding of course outcomes and allow you to refine your skills as you prepare for the HSC examination.
- This task will draw together the above outcomes and assess your ability to apply a range of mathematical skills and techniques that you have covered in class.

Assessment Procedures

All students should be fully aware of the School Assessment Procedures for their year group. These were provided at the beginning of the school year and are available on the school website under the Learning Tab for each year group.