

Task 5: Yearly Exam


Due Date: Wednesday 12th November, Term 4 Week 5 Periods 1 & 2

Task Distributed: 28th October 2025	Unit: Further Functions, Trigonometry, Indices and Advanced Algebra
Task Type: Formal Examination	Task Weighting: 25%
Outcomes: MAO-WM-01, MA5-NLI-P-01, MA5-FNC-P-01, MA5-TRG-P-01, MA5-IND-P-01 & 02	

Task Description

Duration: 80 Minutes plus 5 min reading time

This task is an **80-minute examination with 5 minutes** reading time to be completed under examination conditions in the school hall during the Yearly Examination period. The exam will consist of two sections covering the topics listed below:

- **Section 1 – Multiple Choice:** 10 Multiple Choice questions worth 1 mark each assessing a range of skills from the topics below.
- **Section 2 – Long Response:** A variety of questions worth 1 mark or more assessing a range of skills from the topics below. This section will involve several literacy questions requiring you to write a short statement. These questions will be marked with the following symbol: 
- **Section 3:** Problem solving questions bringing together multiple aspects from the units of work studied.

Further Functions	Trigonometry
<ul style="list-style-type: none"> ● Use function notation ● Define the domain and range, of a given function ● Use the vertical line test to determine whether/if a function exists ● Prove odd and even functions graphically ● Graph and transform different functions including; Exponentials, Hyperbolas, Absolute Value and Circles ● Describe the changes in functions relative to it's base model 	<ul style="list-style-type: none"> ● Manipulate a range of expressions involving surds ● Use right-angled trigonometric ratios to solve problems including angles of elevations and depression ● Use the Sine, Cosine and Area of a Triangle rules for non-right-angled triangles ● Solve problems involving bearings
Indices & Advanced Algebra (Differentiation)	
<ul style="list-style-type: none"> ● Simplify Indices by applying Index Laws ● Differentiate a range of functions by applying the appropriate law(s) 	<ul style="list-style-type: none"> ● Find the equations of tangents to curves ● Calculate gradients of tangents

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
- **Identify**: Recognise and name properties using correct mathematical terminology / notation
- **Evaluate** - Determine the value of
- **Prove / Show** - Provide all algebraic steps and working in a logical sequence
- **Simplify** - Write an expression in its simplest form
- **Sketch** - Neatly draw a function on a number plane, clearly showing key features
- **Solve** - Use algebraic techniques to find a solution

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.

A Reference Sheet will be provided for use with the entire exam.

Section 1 is to be answered on the multiple-choice answer sheet attached to the back of your exam.

Section 2 & 3 is to be answered in the space provided under each question showing all relevant working out.

How to Prepare

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 weekly formative tasks
- Regularly completing practice examination questions.
- Seeking teacher assistance on unclear work.
- Ensuring all set work is up to date.

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.

How does this link to my learning?

- 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 HSC Mathematics courses.
- 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.