Year 9, Mathematics

Task 4: Yearly Exam

Due Date: Thursday 14th November, Term 4 Week 5

Task Distributed: 29th October 2024

Unit: Indices & Numbers of any magnitude, Data Analysis, Trigonometry

Task Type: Formal Examination

Task Weighting: 25%

Outcomes: **MA5-TRG-C-01, MA5-TRG-C-02, MAO-WM-01, MA5-IND-C-01, MA5-FIN-C-01, MA5-DAT-C-01**

Task Description Duration: 70 Minutes plus 5 min reading time

This task is a **70-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 mixture of short and long response questions separated into topics worth one mark or more. This section will involve a number of literacy questions requiring you to write a short statement. These questions will be marked with the following symbol:

Indices & Numbers of any magnitude	Data Analysis
• Express number using scientific notation • Round numbers to a certain amount of significant figures • Simplify algebraic products and quotients using index laws • Apply the index laws to variables, using positive-integer indices and the zero index	• Calculate standard deviation of data sets • Develop 5 figure summary to find quartiles and interquartiles range • Use 5 figure summary to create box plots and make comparisons • Identify skewness and symmetry in visual representations of data sets
Trigonometry	
• Applies trigonometric ratios to solve for an unknown side • Applies trigonometric ratios to solve for an unknown angle • Applies trigonometry to solve problems, including angles of elevation and depression	

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

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.

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

Section 2 is to be answered in the space provided under each question showing all relevant working out. A Reference Sheet will be provided for use with the entire exam.

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.

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

The GTHS Mathematics Literacy Criteria

Literacy Outcomes	Elementary achievement You have:	Limited achievement You have:	Satisfactory achievement You have:	High achievement You have:	Outstanding achievement You have:
Vocabulary *Uses technical vocabulary to explain concepts and/or range of precise and appropriate words for effect*	Very limited response. Few content words used.	Only simple words are used.	Some precise and technical words are used.	Sustained use of precise and technical words.	Sustained, consistent and fluent use of precise and technical words.
	0	1	2	3	4
Punctuation *Use of correct and appropriate sentence and other punctuation for effect, and to aid in reading of the text*	No evidence of correct sentence punctuation.	Sentence punctuation is correctly used in at least one place - *one sentence is punctuated correctly.*	Some correct sentence level punctuation (at least 50%). May attempt other punctuation where it is required.	Mostly correct sentence level punctuation (80%) and at least two correct examples of other punctuation.	Writing contains accurate use of all applicable punctuation.
	0	1	2	3	4
Sentences & Cohesion *The intentional construction of a variety of sentences to match purpose and audience, and the control of multiple sentence threads across the whole text.*	No clear evidence of sentences: a list of words OR text fragments.	At least one sentence is used correctly. Some meaning can be construed from the text.	Some correct formation of simple sentences, but may attempt more complex structures.	Most sentences are correct, including compound sentences.	All sentences are correct, effective and controlled, and include evidence of sophisticated structures)
	0	1	2	3	4
	Level of response is well below syllabus expectation	Level of response is below syllabus expectation	Level of response is equivalent to syllabus expectation	Level of response is above syllabus expectation	Level of response is well above syllabus expectation