Gymea Technology High School
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Year 10 Mathematics

Task 4: In Class Test

Due Date: Wednesday 3rd September 2025

Task Distributed: 20th August 2025	**Units**: Non-linear Relationships & Financial Mathematics
Task Type: In-class Test	**Task Weighting**: 15 %
Outcomes: MA5-NLI-C-01, MA5-NLI-C-02, MA5-FIN-C-01, MA5-FIN-C-02, MAO-WM-01	

Task Description

This 40-minute test 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 separated into topics worth one mark or more. This section will involve several literacy questions requiring you to write a short statement. These questions will be marked with the following symbol:

Non-linear Relationships:

- Explore the equations and graphs of simple quadratics
- Explore the equations and graphical representations of exponentials
- Graph and examine quadratic relationships with varying *a* values
- Graph and examine exponential relationships with varied *a* values
- Construct a table of values to graph non-linear relationships involving quadratics and exponentials
- Identify and describe the key features of parabolas including the vertex, intercepts, axis of symmetry and concavity
- Recognise non-linear relationships in real-life contexts and solve related problems
- Associate graphs of straight lines, parabolas and exponential curves with the appropriate equations.

Financial Mathematics:

- Solve problems involving simple interest
- Investigate costs on buying items on terms
- Develop the ideas of compound interest and solve problems
- Use the compound interest formula to establish the depreciation formula and solve problems
- Examine payment options involving *buy now*, *pay later* and investigate the costs associated with these schemes for purchasing goods
- Use the compound interest formula to establish the depreciation formula where salvage value, initial value of the asset, depreciation rate per time period, and number of periods
- Solve problems involving the depreciation of an asset.

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 –** Give an answer in numerical form
- **Identify -** Recognise and name
- **Prove / Show -** Provide all 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 examination, you must bring the following equipment.

- Board approved calculator
- Blue or black pen
- Pencils and eraser for graphs
- A ruler

Teacher Feedback and Student Self-Reflection

- The task will typically be returned to students within 14 Days of the test date.
- At this time feedback including information on how to improve will be provided through solutions.
- Students can clarify or seek further feedback by speaking with their teacher.
- You will also receive feedback on your literacy performance based on the criteria in the school's literacy marking rubric. The marks achieved for literacy will account for between 10% – 20% of the maximum task value.
- Upon return of the task, students will also be expected to complete a self-reflection in class.

How does this link to my learning?

- This task will be used by your teachers to assess your knowledge and understanding of the outcomes listed that you have been studying in class this semester.
- The marks achieved in this exam will go towards your semester 2 report and may determine your class in any future class placements.
- 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 off 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