



Year 11 Mathematics Standard

Task 2 – Breaking Down Questions: Investigation and Quiz

Due Date: 23rd June, period 1, 2025

Task Distributed: 5th June 2025

Unit: Financial Mathematics: Earning and managing money
Algebra: Formulae & Equations,
Measurement: Practicalities of Measurement

Task Type: Investigation and Quiz

Task Weighting: 30%

Outcomes: MS11-1, MS11-2, MS11-3, MS 11-5, MS 11-6, MS11-7, & MS11-10

Task Description

Part A: Create a Topic Study Guide

Students will create a Topic Study Guide for the topics outlined above; **Financial Mathematics, Algebra and Measurement**. The Topic Study Guide will consist of:

- A glossary of the **key verbs** and **topic-specific terminologies** presented in these topics from identified HSC questions. provided to you in **your exam pack**.
- **Solution Plans** for the identified HSC questions that have been provided for you in your exam pack on Google Classroom.

*Your teacher will provide you with a digital copy of **your exam pack** that consists of HSC questions from prior years and a **blank scaffold** for you to use to form your topic study guide.*

QUESTIONS THAT YOU HAVE IDENTIFIED BUT ARE NOT LISTED IN THE EXAM PACK WILL NOT BE COUNTED TOWARDS YOUR SUBMISSION.

Part B: Moodle Quiz

Students will sit a short in-class Moodle quiz assessing the knowledge and skills developed through your investigation. The questions will require you to:

- Identify key verbs and terminology in past HSC questions.
- Match definitions to key verbs and key math terms.
- Identify steps to solve a question when presented with a key term
- Solve a range of past HSC multiple-choice questions from the topic areas listed above.

Details of Submission

Part A: Topic Study Guide

Students are encouraged to use the scaffold on google classroom to produce their Topic Study Guide.

This needs to be submitted on the day of the **Moodle Quiz: 23rd June period 1, 2025.**

Part B: Moodle Quiz

For the Moodle Quiz, you must bring the following equipment.

- Board approved calculator
- Blue or black pen

You can successfully prepare for the Moodle Quiz by:

- Being familiar with your topic study guide
- Reviewing class work and past HSC examples from each topic in the study guide.
- Ensuring all set work is up to date.
- Practice completing examination questions with detailed answers under time pressure. (1 mark = 1.5 minutes).
- Seek teacher assistance for unclear work.
- Review the HSC Reference Sheet. You will be provided with one for the quiz.

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?

- It will assist you in developing your skills and understanding in how to recognise these key terms in examination style questions and determine how they lead you to the solution you are required to develop
- 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

Students who are absent from the examination, or have a legitimate reason for missing the task, must notify the school before the exam commences. To avoid a zero mark being awarded, any absence must be supported by valid misadventure/illness documentation as outlined in the Year 12 Assessment Booklet.

Instructional Marking Rubric for Part A

Category	0 Marks	1 Mark	2 Marks	3 Marks
Identification of key HSC verbs	Does not identify a question verb or does not show a clear understanding of the verb's meaning.	Correctly identifies at least TWO verbs from suitable HSC questions and attempts to explain its meaning.	Correctly identifies at least FOUR verbs identified in suitable HSC questions and correctly explains their meaning.	Correctly identifies at least SIX different verbs identified in suitable HSC questions and correctly explains their meaning.
Definitions of topic specific terminology	Does not correctly define any key mathematical terms for either topic or does not show a clear understanding of the terminology.	Correctly identifies at least THREE key terms identified in suitable HSC questions, but the links to the syllabus ideas are not well explained.	Correctly defines at least TWO key terms identified in suitable HSC questions <u>from each topic</u> and provides sufficient understanding of how they link to syllabus ideas / techniques.	Correctly defines at least FOUR key terms identified in suitable HSC questions from <u>each topic area</u> identified in suitable HSC questions and provides sufficient understanding of how they link to syllabus ideas / techniques.
Identification of questions linked to the topic areas	Does not identify any questions that link to either topic.	Attempts to identify and highlight the key verbs and underline the topic terminology from at least TWO questions from the exam pack..	Identifies and correctly highlights the key verbs and underlines the topic terminology for at least ONE question <u>from each topic.</u> They must be from the exam pack.	Identifies and correctly highlights the key verbs and underlines the topic terminology for at least TWO questions <u>from each topic.</u> They must be from the exam pack.
Annotation of worked solutions, explaining why each step was used.	Does not identify a question or does attempt to annotate a solution to a question.	Attempts to create a solution plan for ONE identified question that provides a clear understanding of how the key verbs and topic specific terminology link to the solution.	Correctly creates a solution plan at least ONE question <u>from each topic</u> that provides a clear understanding of how the key verbs and topic specific terminology link to the solution.	Correctly creates solution plans for at least TWO questions <u>from each topic</u> that provides a clear understanding of how the key verbs and topic specific terminology link to the solution.

Worked Example

Topic - Algebra	
Question Verb(s)	Definition
Make	Manipulating the formula in a particular format
Key Terms	Definition
Subject	Manipulating the formula so that a particular part (f in this case) is isolated on the left hand side of the equation, but not solving the equation.
$g = \frac{4}{9}f + 12$	The arrangement of the formula leads to applying particular manipulation techniques, ensuring the equation is balanced with any manipulation.

Question

Make f the subject of the formula $g = \frac{4}{9}f + 12$.

(A) $f = \frac{9}{4}g - 12$

(B) $f = \frac{9(g+12)}{4}$

(C) $f = \frac{9g-12}{4}$

(D) $f = \frac{9(g-12)}{4}$

Solution Plan

- * Since the question asks me to make f the subject, I need to move everything away from the f , to the other side. Whatever I do to one side, I do the same to the other.
- * First subtract 12 from both sides.
- * Second multiply every thing on both sides by 9. (use brackets around all of left hand side)
- * Divide everything by 4.