

Assessment Task 1 – Open Book Task

Due Date: Tuesday 24/03/20, Period 1 Week 9B Term 1

Date Distributed: Tuesday 10th March 2019

Task Weighting: 35%

Outcomes

MA11-1 uses algebraic and graphical techniques to solve, and where appropriate, compare alternative solutions to problems

MA11-2 uses the concepts of functions and relations to model, analyse and solve practical problems

MA11-8 uses appropriate technology to investigate, organise, model and interpret information in a range of contexts

MA11-9 provides reasoning to support conclusions which are appropriate to the context

ASSESSMENT OUTLINE

1. WHAT AREAS OF LEARNING DOES THIS ASSESSMENT ADDRESS?

You will need to develop solutions and provide reasoning to a wide variety of problems and demonstrating your understanding of the following concepts:

Linear Relationships

- Recognise direct variation as a straight line
- Explain the significance of the variables m and c in the equation
$$y = mx + c$$
- Derive equations of straight lines from a gradient and a given point
- Calculate gradients using the gradient formula
- Investigate properties of parallel and perpendicular lines
- Solve problems incorporating the above concepts
- Solve practical problems involving linear simultaneous equations only and interpret break-even points.

Quadratic and Cubic Functions

- Manipulate complex algebraic expressions
- Recognize graphical features of a quadratic function
- Determine properties of quadratic functions
- Solve quadratic equations
- Understand the discriminant
- Find the equation of a quadratic
- Solve problems involving modelling and analyzing quadratic functions
- Solve practical problems involving simultaneous equations
- Recognise cubic functions and the effect of changing constant values within the equation

2. WHY IS THE COMPLETION OF THIS ASSESSMENT IMPORTANT?

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

3. WHAT STEPS DO I TAKE TO COMPLETE THIS TASK?

Task Outline

This is an open-book task, meaning that you are permitted to bring into the exam one A4 sized double-sided page of summary notes. Your notes must be handwritten only. You will submit your summary notes with your exam paper. These summary notes are worth an additional 2 marks on top of your total exam mark as indicated in the marking rubric attached.

You will have **1 period** to complete this exam. A HSC Reference Sheet will also be provided. The examination consists of the following two compulsory sections:

Section 1:

Multiple Choice. This section contains 5 multiple-choice questions worth 1 mark each covering a range of the concepts listed in the Areas of Learning above. The questions increase in difficulty throughout this section. You should allow about **8 minutes** to complete this section.

Section 2:

Written Response. This section contains a mixture of short and long response questions worth 1 mark or more covering a range of the concepts listed in the Areas of Learning above. You should allow about **35 minutes** to complete this section. All necessary working must be shown for this section.

Preparation for this Task

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

- Creating your summary notes page covering each topic listed above (you can use mind maps, flow charts, dot point lists).
- Accessing practice past papers on Moodle.
- Regularly complete practice examination questions.
- Seeking teacher assistance on unclear work.
- Ensuring all set work is up to date.

Details for 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
- **One A4 paper double sided summary note with hand writing only.**

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 11 Assessment Booklet.

You will also need to complete a self-reflection on your assessment that is to be submitted to your teacher after receiving the solutions. This is to assist you and your teacher in refining your knowledge, skills and examination technique for future assessments.

4. HOW WILL MARKS BE AWARDED TO MEASURE MY LEARNING?

Worked solutions with marking criteria for each question will be provided when the exam is marked and returned. You should ensure that you go through these solutions thoroughly to correct your mistakes and ask your teacher if there is anything you are unsure about.

Feedback will be provided on your summary sheet using the rubric below:

0	1	2
No A4 summary sheet submitted.	Summary sheet contains some relevant information but is minimal or contains incorrect information.	Summary sheet shows good understanding of the concepts assessed in this task.