Gymea Technology High School
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Year 10 Advanced Mathematics

Task 2: Half Yearly Examination

Due Date: Tuesday 19th May 2026

Task Distributed: 05th May 2026

Unit: Linear Relationships, Algebraic Techniques, Equations (Quadratic and Linear), Sketching Quadratic Functions

Task Type: Formal Examination

Task Weighting: 25%

Outcomes: MAO-WM-01, MA5-LIN-P-01, MA5-LIN-P-01, MA5-LIN-C-02, MA5-ALG-P-02, MA5-EQU-P-01, MA5-EQU-P-02

Task Description — Duration: 80 minutes

This exam will consist of three 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 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:

Section 3: Problem solving question. This section will involve question(s) that require students to a problem combining multiple units of work in a real life scenario.

Your knowledge, skills and understanding in the following areas can be assessed in this examination:

Linear Functions	Equations
• Sketch straight line graphs using intercepts • Calculate gradients using the gradient formula • Find the midpoint and distance between two points • Use properties of parallel and perpendicular lines • Derive equations of straight lines from given information • Rearrange equations of straight lines into a given format • Apply problem solving skills to solve geometry or real life based problems	• Solve linear equations and inequalities up to 3 steps • Solve a range of Quadratics through factorising, the quadratic formula or completing the square • Understand how a quadratic equation may produce either 2, 1 or zero solutions

Algebraic Techniques	Quadratic Functions
● Expanding & Factorising Algebraic Expressions ● Operate with & simplify algebraic fractions ● Expand and Factorise a range of algebraic expressions ● Expand and factorise expressions involving special products	● Find x and y intercepts ● Determine the axis of symmetry of a quadratic ● Use the axis of symmetry to determine the vertex of a parabola ● Shift graphs vertically using constants ● Understand the effect of the 'a' value in $y = ax^2 + bx + c$ ● Sketch a range of quadratics ● Determine the equation of a quadratic function given its graph

What Can I Do To Prepare For This Task:

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

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/Find -** Provide a numerical answer
- **Identify -** Recognise and name
- **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 notes or any electronic device into the exam.

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?

- 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 future formal examinations
- 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.