HSC	**General MATHEMATICS**	**ASSESSMENT TASK**

DATE: **Wed 9th December, 2009, Period 1**

TIME ALLOWED: 60 minutes

ASSESSMENT WEIGHTING: 10%

BOARD OF STUDIES OUTCOMES ADDRESSED:

H1 Appreciates the importance of mathematics in her/his own life and its usefulness in contributing to society

H2 Integrates mathematical knowledge and skills from different content areas in exploring new situations

H3 Develops and tests a general mathematical relationship from observed patterns

H4 Analyses representations of data in order to make inferences, predictions and conclusions

H5 Makes predictions about the behaviour of situations based on simple models

H6 Analyses two-dimensional and three-dimensional models to solve practical and mathematical problems

H7 Interprets the results of measurements and calculations and makes judgements about reasonableness

H8 Makes informed decisions about financial situations

H9 Develops and carries out statistical processes to answer questions which she/he and others have posed

H10 Solves problems involving uncertainty using basic principles of probability

H11 Uses mathematical argument and reasoning to evaluate conclusions drawn from other sources, communicating his/her position clearly to others

ASSESSMENT CRITERIA:

Topic: 1 Taxation

In this task you will be assessed on your ability to:

1. Calculate the amount of allowable deductions from gross income
2. Calculate taxable income
3. Calculate medicare levy
4. Calculate PAYE tax payable or refund owning using tax tables
5. Calculate VAT or GST on a range of goods and services
6. Create graphs to illustrate and describe different tax rates

Topic: 2 Linear Modelling

In this task you will be assessed on your ability to:

1. Graph representations of quantities that vary over a period of time
2. Identify dependent and independent variables
3. Graph linear functions derived from every day situations by plotting ordered pairs from a table of values
4. Calculate and understand the gradient and intercept of a graph
5. Sketch graphs of linear functions expressed in the form y = mx + b
6. Develop a graph of the form y = mx + b from a description of a situation in which one quantity varies in a direct linear fashion with another.
7. Interpret linear functions and make conversions from one measurement to another.
8. Use stepwise and piecewise linear functions to model situations encountered in everyday life
9. Interpret graphical solutions of simultaneous equations
10. Draw lines of best fit

Topic: 3 Summary Statistics

In this task you will be assessed on your ability to:

1. Calculate the mean, mode, range and median from a small set of data
2. Determine the mean, mode, median and range for larger set of grouped and grouped data from a frequency distribution table.
3. Select the appropriate measure (mean, mode or median) to describe a set of data.
4. Calculate the standard deviation for a sample and population.
5. Compare summary statistics of various samples from the same population

INSTRUCTIONS:

- This task will be completed in class
- Approved calculators may be used
- Show all necessary working. Marks will not be given for answers where working is required.
- Answers to be completed on the assessment paper