YEAR 12 EXTENSION 1
ASSESSMENT TASK
TERM 1, WEEK 5, 2010

Date: Thursday, 25th February

Marks: 100%

Time Allowed: 1 period

Weighting: 10%

Outcomes Addressed

- Uses techniques of integration to calculate areas and volumes and other problems
- Graphs and applies techniques of calculus to trigonometric functions involving circular measure
- Applies mathematical induction to proving given results

Integration

- Finding definite integrals and evaluating definite integrals
- Finding the area under a curve bounded by either the x-axis or the y-axis
- Finding the area under a curve and below the x-axis
- Finding the area between two curves
- Finding the volumes of solids of revolution about either the x-axis or the y-axis
- Approximating definite integrals using either the Trapezoidal Rule or Simpson's Rule

Trigonometric Functions

- Using radians to find exact values, simplifying expressions and solving equations.
- Graphing trigonometric functions.
- Finding the period of trigonometric functions
- Solving trigonometric equations using a graph
- Differentiating and integrating trigonometric functions

Mathematical Induction

- Using mathematical induction to prove a given statement

Instructions

- Attempt all questions
- Show all necessary working
- Write in blue pen, black pen or dark pencil
- Approved calculators may be used

NOTE:

- Students who do not achieve the outcome (less than 39%) in this assessment task will receive an 'Official Warning' – non completion of the HSC course.
- Students will be required to re-sit the task within 7 days.
- Students will be given 2 further opportunities to achieve the required outcome.
- Failure to achieve the outcome may result in the student receiving an 'N' determination.