

YEAR 12 EXTENSION 2

ASSESSMENT TASK

TERM 2, WEEK 6, 2010

Date: Wednesday, 26th May

Time Allowed: 1 period

Marks: 100%

Weighting: 10%

Outcomes Addressed

- Applies further techniques of integration, including partial fractions, integration by parts and recurrence formulae to problems.
- Uses efficient techniques for the algebraic manipulation requires in dealing with questions involving polynomials.

Integration

- Integrals involving substitution.
- Integration of inverse trigonometric functions.
- Integration using partial fractions.
- Integration by parts.
- Integration using $t = \tan \frac{\theta}{2}$.
- Integration involving a recurrence formula.

Polynomials

- Factorisation of polynomials over different fields.
- Remainder and factor theorems.
- Fundamental theorem of algebra.
- Roots of a polynomial.
- Multiple roots.
- Relationships between roots, coefficients, and degree.
- Transformation of polynomial equations.

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.