

**YEAR 12 EXTENSION 2  
ASSESSMENT TASK  
TERM 3, WEEK 2, 2010**

**Date: Wednesday, 28<sup>th</sup> July**

**Marks: 100%**

**Time Allowed: 1 period**

**Weighting: 10%**

**Outcomes Addressed**

- Uses the techniques of slicing and cylindrical shells to determine volume.
- Chooses appropriate strategies to solve more difficult problems from Extension 1 including inequalities, mathematical induction, area by integration and circle geometry.

Volumes

- Volumes by slicing
- Volumes by cylindrical shells.
- Volumes other than by revolution.

Further Extension 1

- Inequalities.
- Trigonometry.
- Integration.
- Circle geometry.
- Permutations and combinations.
- Mathematical induction.
- Complex numbers and the binomial theorem.

**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.