

Assessment Notification



<i>Course</i>	Year 12 Extension 1 Mathematics
<i>Task</i>	Task 2
<i>Date and time</i>	Wednesday 19 th July, Week 1, Term 3 Boys – Period 2 WCC (room TBC) Girls – Period 3 BSC (room TBC)
<i>Time allowed</i>	60 minutes (2 minutes reading time)
<i>Weighting</i>	30%
<i>Nature of task</i>	Written examination style task, NESA approved calculators allowed, reference sheet will be provided. Section A - 5 multiple choice questions Section B - extended response questions
<i>Topics and outcomes</i>	Further Integration Inverse Functions Further Applications of Calculus to the Physical World (content as specified below) <i>Outcomes – HE3, HE4, HE6, HE7</i>
<i>Course text</i>	New Senior Mathematics Extension 1 for years 11 & 12; J.B. Fitzpatrick; Pearson Australia

Topics content and text references

Further Integration (Chapter 9)

Students can be asked to:

- Find integrals obtained by use of identities including the use the double angle expansions to integrate $\sin^2 ax$ and $\cos^2 ax$
- Find integrals, both definite and indefinite, given a suitable substitution (including trigonometric substitution)
- Find integrals of the type $\int f'(x)(f(x))^n dx$

Inverse Functions (Chapter 10)

Students can be asked to:

- Apply the relationships between a function and its inverse.
- State the domain and range of inverse trigonometric functions and sketch their graphs
- Evaluate expressions involving inverse trigonometric functions
- Find the derivative of inverse trigonometric functions
- Find integrals resulting in inverse trigonometric functions
- Apply appropriate techniques from the study of calculus to inverse trigonometric functions

Further Applications of Calculus to the Physical World (Chapter 13.1 & 13.2)

Students can be asked to:

- solve problems involving rates of change
- solve problems involving growth and decay

Preparation

- Write summary notes of the topics listed above
- Study the outcomes listed above using the text references and other resources provided
- Bring your calculator and writing equipment to the assessment