YEAR 12 HSC Extension 1 Mathematics

2018 Half-Yearly Examination

<table>
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<th>Due Date: 14th March 2018</th>
<th>Assessment Name: Half-Yearly Examination</th>
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<tr>
<td>Mark: 40</td>
<td>Weighting: 30%</td>
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<td>Length: 70 minutes</td>
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SYLLABUS OUTCOMES TO BE ASSESSED:

HE1 **Appreciates** the interrelationships between ideas drawn from different areas of mathematics
HE2 **Uses** inductive reasoning in the construction of proofs
HE4 **Uses** the relationship between functions and derivatives
HE6 **Determines** integrals by reduction to a standard form through a given substitution
HE7 **Evaluates** mathematical solutions to problems and **communicates** them in an appropriate form

DIRECTIVES TO BE ASSESSED:

**Uses** To achieve a solution by using mathematical processes
**Appreciates** To understand fully, grasp the full meaning of
**Determines** To establish exactly by calculation
**Evaluates** To find a numerical expression or equivalent for an equation, formula, or function
**Communicates** To share or exchange information or ideas

TASK DESCRIPTION:

You will complete a 70 minute exam, with a five minutes reading time, covering the Extension 1 Mathematics topics listed below. Note Preliminary outcomes will be tested as a part of these topics.

The exam will involve 10 multiple choice questions and 2 extended response questions of equal value.

A board approved formulae sheet is permissible

The exam will consist of -

Section 1 – ten multiple choice questions worth 10 marks (1 mark each)
Section 2 – Two extended response questions worth 30 marks (15 marks each)

The topics which may be assessed are:

- Further Inequations
- Further Graphs and Curve Sketching
- Further Trigonometry
- Angle Between Two Lines
- Ratios
- Circle Properties
- The Parabola
- Polynomials 1 and 2
- Permutations and Combinations
- Binomial Theorem

Equipment required:

- Board approved scientific calculator
- Pens, ruler, pencils

ASSESSMENT CRITERIA – STUDENT CHECKLIST:

* Have you revised these topics?
* Are you familiar with the formula sheet and any formulae you need to learn?