YEAR 12 Mathematics

Half-Yearly Examination

<table>
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<th>Due Date: 15\textsuperscript{th} March 2018</th>
<th>Assessment Name: Half-Yearly Exam</th>
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<tbody>
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<td>Mark: /55</td>
<td>Weighting: 30%</td>
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<td>Length: 75 minutes</td>
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SYLLABUS OUTCOMES TO BE ASSESSED:

- **H4 Expresses** practical problems in mathematical terms based on simple given models
- **H5 Applies** appropriate techniques from the study of calculus, geometry, probability, trigonometry and series to solve problems
- **H6 Uses** the derivative to determine the features of the graph of a function
- **H7 Uses** the features of a graph to deduce information about the derivative
- **H8 Uses** techniques of integration to calculate areas and volumes
- **H9 Communicates** using mathematical language, notation, diagrams and graphs

Note: Preliminary outcomes can be assessed in all HSC Tasks.

DIRECTIVES TO BE ASSESSED:

- **Apply** To use, utilise, employ in a particular situation
- **Expresses** To change into mathematical terms
- **Solve** To find the value of an unknown pronumeral in an equation or inequality
- **Uses** To achieve a solution by using mathematical processes
- **Communicates** Chooses the correct way to give a mathematical answer

TASK DESCRIPTION:

You will complete a 75 minute exam, with a five minutes reading time, covering the Mathematics topics listed below. Note Preliminary outcomes can be tested as a part of these topics.

The exam will involve 10 multiple choice questions and 3 extended response questions of equal value.

A board approved formulae sheet will be provided with your test paper.

The exam will consist of:
- Section 1 – Ten multiple choice questions worth 10 marks (1 mark each)
- Section 2 – Three extended response questions worth 45 marks (15 marks each)

The HSC topics assessed are:

- Differentiation - Ch2 and Prelim content
- Integration - Ch 3

Syllabus Reference:

- Geometrical applications of differentiation (10.1–10.8)
- Integration (11.1–11.4)
- Tangent to a Curve and Derivative of a Function (8.1 – 8.9)

Equipment required:

- Board approved scientific calculator
- Pens, ruler, pencils

This task will be completed under exam conditions.

ASSESSMENT CRITERIA – STUDENT CHECKLIST:

- Have you revised these topics?

Check your assessment booklet for the PHS Assessment Policy
- Do you have all the equipment?
- Are you familiar with the formula sheet and the formula you may need to learn?
- Have you completed the revision exercises from the Google classroom for revision?
- Have you attended Friday lunch time tutorials to get any extra help required?