

# PICTON HIGH SCHOOL

Creating Opportunities Achieving Success



## YEAR 12 HSC Extension 1 Mathematics

### 2018 Half-Yearly Examination

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| <b>Due Date:</b> 14 <sup>th</sup> March 2018<br>Wednesday Week 7 | <b>Assessment Name:</b> Half-Yearly Examination    |
| <b>Mark:</b> /40   | <b>Weighting:</b> 30%<br><b>Length:</b> 70 minutes |

#### 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?

Check your assessment booklet for the PHS Assessment Policy

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