



# 2012 MATHEMATICAL APPLICATIONS, Semester 1

FOR OFFICE USE ONLY

SUPERVISOR CHECK

RE-MARKED

**ATTACH SACE REGISTRATION NUMBER LABEL TO THIS BOX**

Graphics calculator	<input type="checkbox"/>
Brand	_____
Model	_____
Computer software	<input type="checkbox"/>

Thursday 7 June: 9 a.m.

Time: 1½ hours

Pages: 10
Questions: 3

## Topic 7: Statistics and Working with Data

Examination material: two question booklets  
two SACE registration number labels

*Approved dictionaries, notes, calculators, and computer software may be used.*

### Instructions to Students

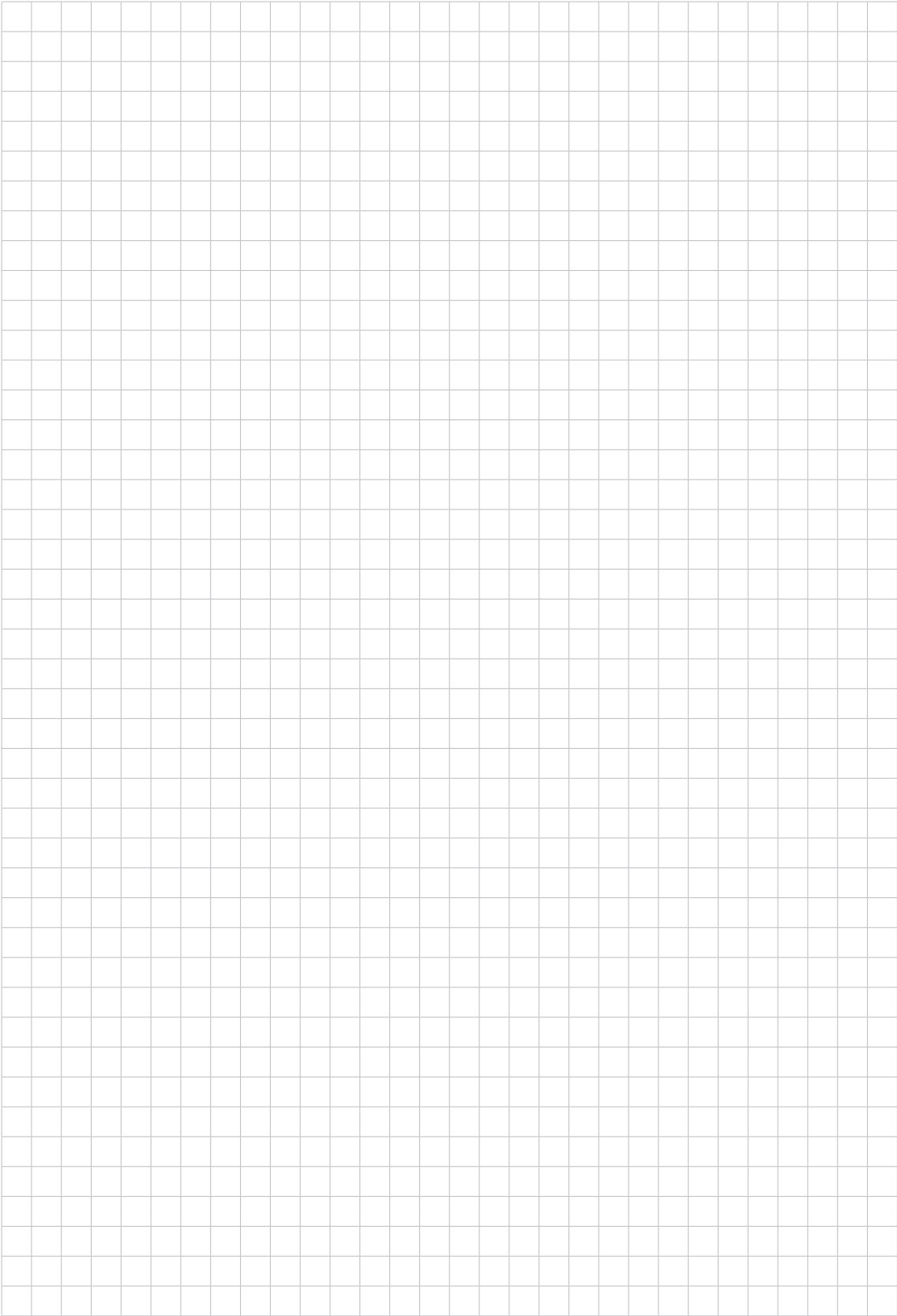
- You will have 10 minutes to read the question booklets. You must not write in your question booklets or use a calculator during this reading time but you may make notes on the scribbling paper provided.
- Each of the following five topics is printed in a separate question booklet. **Tick the boxes by the two topics you have studied in Semester 1:**
  - Topic 2: Investment and Loans
  - Topic 4: Matrices
  - Topic 5: Optimisation
  - Topic 6: Share Investments
  - Topic 7: Statistics and Working with Data.
- The total mark for each topic is 35.
- Answer **all** parts of Questions 1 to 3 in the spaces provided in this question booklet. There is no need to fill all the space provided.
- Show all working in this booklet. (You are strongly advised **not** to use scribbling paper. Work that you consider incorrect should be crossed out with a single line.)
- Write on page 5 if you need more space. Make sure to label each answer carefully.
- Use only black or blue pens for all work other than graphs and diagrams, for which you may use a sharp dark pencil.
- Appropriate steps of logic and correct answers are required.
- Marks may be deducted if you do not clearly show all steps in the solution of problems, if your answers have an inappropriate number of decimal places, or if you use incorrect units.
- Diagrams, where given, are not necessarily drawn to scale.
- Complete the box on the top right-hand side of this page with information about the electronic technology you are using in this examination.
- Attach one of your SACE registration number labels to the box at the top of this page.
- At the end of the examination, place one question booklet inside the back cover of the other question booklet.







You may write on this page if you need more space to finish your answers to Topic 7. Make sure to label each answer carefully (e.g. 'Question 3(a) continued').









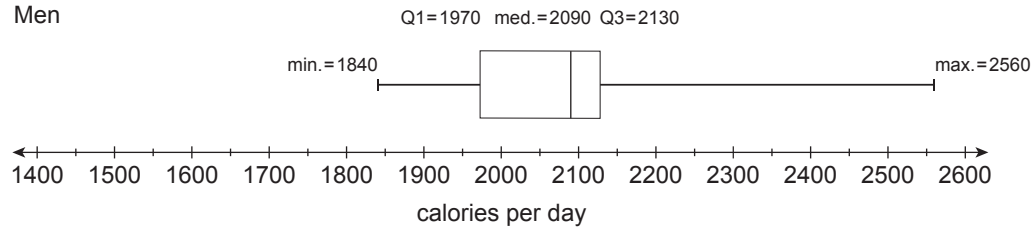


- (c) Draw and label a box-and-whisker diagram for the women's data, using the axis provided.

### Calorie Intake

Women

Men



(2 marks)

- (d) Fill in the blanks in the following sentences with 'men' or 'women':

'The standard deviation suggests that \_\_\_\_\_ demonstrate a higher level of variability in the number of calories they consume on an average day.'

'On average, \_\_\_\_\_ consume fewer calories each day.'

(2 marks)

**Question 3 continues on page 10.**

