

Tutorial Quiz 2018

MATH1013 - Mathematics and Applications 1

Tutorial Quiz 10 Calculus and Linear Algebra

Reading time: 1 minute
Writing time: 10 minutes

Student Name: _____
University ID: _____

Question and Answer Book

Structure of Book

<i>Number of questions</i>	<i>Number of questions to be answered</i>	<i>Number of marks</i>
4	4	15

- Students are NOT permitted any calculators or notes during the quiz.
- Students are NOT permitted to collaborate in any form during the quiz. Any signs of collaboration or cheating will result in a nullified score and the course convenor will be informed of any academic misconduct.

Materials supplied

- Question and answer booklet of 7 pages.
- Working space is provided throughout the booklet.

Instructions

- Write your **student number** in the space provided above on this page.
- All written responses must be in English.

Students are NOT permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.

Instructions

Answer **all** questions in the space provided.

In all questions where a numerical answer is required, an exact value must be given unless otherwise specified.

In questions where more than one mark is available, appropriate working **must** be shown.

Unless otherwise indicated, the diagrams in this book are **not** drawn to scale.

Question 1

(Substitution). Evaluate the integral

$$\int x\sqrt{2+x}dx.$$

Question 2

(Substitution). Evaluate the integral

$$\int \sec^2(x)e^{\tan(x)}dx.$$

Question 3

(Think). Evaluate the integral

$$\int_0^1 |x - 3| dx.$$

Question 4

Differentiate

$$f(x) = 3^x + 2^{3-x}.$$