



# Mathematics for Matriculation

## Algebra

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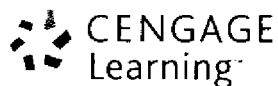
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# MATHEMATICS FOR MATRICULATION: ALGEBRA

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**Nor Aini Abd Rahman ■ Sa'yah Abdullah ■ Nazreen Rusli**  
**Mahiran Ghazali ■ Yong Zulina Zubairi**



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Australia • Brazil • Japan • Korea • Mexico • Singapore • Spain • United Kingdom • United States

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# Foreword



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الجامعة الإسلامية العالمية ماليزيا  
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يُونَيْتِي اِسْلَامِي اِتَار اِيْخْسَا مِلَيْسِيَا

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## OFFICE OF THE DEAN, CENTRE FOR FOUNDATION STUDIES

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*Assalamualaihum Warahmatullahi Wabarakatuh*

It is indeed a pleasure to be given the opportunity to pen a few words in the book *Mathematics for Matriculation: Algebra*.

I wish to convey my congratulations to the authors, the team of academics from Centre for Foundation Studies of the IIUM for their relentless effort in writing and adapting the Mathematics book for the students at the centre. I am sure your generous contributions indirectly provide pathways towards improving the quality of the teaching and learning at the Centre for Foundation Studies.

As an academic institution, the management of IIUM continuously support and acknowledge efforts by the academic staff towards the advancement of knowledge as well as excellence in teaching. The efforts to publish the adaptation series of widely used textbooks will definitely enhance the quality of reading material for the students and complement the course instructors or lecturers.

Lastly, I would like to urge students to make the most of the book. This book also benefits other students taking similar mathematics courses such as those in the preparatory or foundation programmes.

Thank you.

Best wishes.

**ASSOC. PROF. DATO' DR. SYED ZAHIR IDID**  
DEAN

# Preface

*Mathematics for Matriculation: Algebra* is written for students at pre-university level. The book aims to provide a comprehensive study of basic concepts and principles of algebra as required by local matriculation syllabus. Every effort has been made to ensure that the book is as readable and as easily understood as possible.

Some of the salient and distinctive features of the book include the use of illustration to clarify the meaning of the definitions and mathematical theorems, summaries of important mathematical properties and results, step-by-step explanations of worked examples, extensive collection of problems at the end of each chapter, and applied examples and questions to help the students to relate their learning to real life situations.

Boxed guidelines have been included in the text to help the students to tackle the problems systematically. Students are also been constantly reminded of some of the common mistakes and pitfalls.

Answers for some selected questions are given at the end of the text.

It is our earnest hope that this book will help the students to develop a deeper appreciation and interest in mathematics, besides building a strong foundation in the principles of algebra.

We would also like to take this opportunity to thank the academic staff in Department of Sciences Programmes, Centre of Foundation Studies, International Islamic University Malaysia (IIUM) for their valuable comments, co-operation and support.

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Salina Mohin  
Dayana Ibrahim  
Nor Aini Abd Rahman  
Sa'yah Abdullah  
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