

General Mathematics Units 1 & 2

Contents

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Series contents

This series comprises **ten content workbooks**, two **topic tests**, and a **practice-examination booklet**, covering the complete VCAA General Mathematics Units 1 & 2 course. Each content workbook follows the same structure: concise theory, scaffolded and unscaffolded worked examples, graded practice questions, a compact answer key, and fully-worked solutions.

Unit 1

Chapter 1 — Investigating and comparing data distributions (50 pp)

1A Types of data and categorical displays · 1B Displaying numerical data · 1C Summary statistics: centre and spread · 1D The five-number summary and boxplots · 1E Comparing data distributions

Chapter 2 — Sequences and recurrence relations (26 pp)

2A Sequences and first-order linear recurrence relations · 2B Arithmetic sequences · 2C Geometric sequences

Chapter 3 — Financial mathematics (32 pp)

3A Percentages, mark-ups, discounts and GST · 3B Simple interest and flat-rate depreciation · 3C Compound interest and reducing-balance depreciation · 3D Inflation and comparing purchase options

Chapter 4 — Linear functions, graphs and models (38 pp)

4A Linear functions and their graphs · 4B Linear models · 4C Simultaneous linear equations · 4D Piecewise linear and step graphs

Chapter 5 — Matrices (58 pp)

5A Matrices, types and order · 5B Matrix addition, subtraction and scalar multiplication · 5C Matrix multiplication and powers · 5D Inverse matrices and simultaneous equations · 5E Transition matrices

The Topic 1 Test — Test A (multiple-choice) and Test B (short-answer), with answers and fully-worked solutions — is included at the end of the Chapter 5 workbook.

Unit 2

Chapter 6 — Investigating relationships between two numerical variables (33 pp)

6A Scatterplots and association · 6B Association and causation · 6C The line of good fit by eye

Chapter 7 — Graphs and networks (57 pp)

7A Graphs, vertices and edges · 7B Planar graphs and Euler's formula · 7C Walks, trails, paths, cycles and circuits · 7D Weighted graphs and shortest path · 7E Trees and minimum spanning trees

Chapter 8 — Variation (41 pp)

8A Direct variation · 8B Inverse variation · 8C Transformation to linearity and non-linear modelling · 8D Logarithmic scales and orders of magnitude

Chapter 9 — Measurement, geometry and similarity (34 pp)

9A Units, accuracy and scientific notation · 9B Perimeter and area · 9C Surface area and volume of solids · 9D Similarity and scale

Chapter 10 — Applications of trigonometry (59 pp)

10A Right-angled triangle trigonometry · 10B The sine rule · 10C The cosine rule · 10D Bearings and navigation · 10E The area of a triangle

The Topic 2 Test — Test A (multiple-choice) and Test B (short-answer), with answers and fully-worked solutions — is included at the end of the Chapter 10 workbook.

Practice examinations

Chapter 11 — Practice Examinations (84 pp)

Six full practice examinations with fully-worked solutions, cumulative over the whole Units 1 & 2 course:

Practice Exams 1–3 — Multiple-choice (40 multiple-choice questions, 40 marks, 1 hour 30 minutes writing), at increasing difficulty · Practice Exams 4–6 — Short-answer (60 marks, 1 hour 30 minutes writing), at increasing difficulty. Every examination is open-book (one bound reference permitted) with an approved CAS technology permitted throughout; a formula sheet is provided with each.

The series comprises ≈ 515 pages across all booklets.