Contents

Preface vii
Background reference material ix
Book 1: Sets, relations and mappings
1: Sets 1
2: Relations 6
3: Mappings 13
Solutions to Chapter 1 24
Solutions to Chapter 2 37
Solutions to Chapter 3 56
Test paper 1 90
Test paper 2 92
Test paper 3 94
Test paper 4 96
Book 2: Matrices and vector spaces
1: Matrices and linear equations 1
1: Matrices and linear equations 1
2: Inverses and determinants 8
2: Inverses and determinants 8
2: Inverses and determinants 83: Eigenvalues and diagonalisation 13
 2: Inverses and determinants 8 3: Eigenvalues and diagonalisation 13 4: Vector spaces 18 5: Linear mappings 23
 2: Inverses and determinants 8 3: Eigenvalues and diagonalisation 13 4: Vector spaces 18 5: Linear mappings 23
2: Inverses and determinants 8 3: Eigenvalues and diagonalisation 13 4: Vector spaces 18 5: Linear mappings 23 6: Inner product spaces 29
2. Inverses and determinants 8 3. Eigenvalues and diagonalisation 13 4. Vector spaces 18 5. Linear mappings 23 6. Inner product spaces 29 Solutions to Chapter 1 32 Solutions to Chapter 2 45
2: Inverses and determinants 8 3: Eigenvalues and diagonalisation 13 4: Vector spaces 18 5: Linear mappings 23 6: Inner product spaces 29 Solutions to Chapter 1 32 Solutions to Chapter 2 45 Solutions to Chapter 3 52
2: Inverses and determinants 8 3: Eigenvalues and diagonalisation 13 4: Vector spaces 18 5: Linear mappings 23 6: Inner product spaces 29 Solutions to Chapter 1 32 Solutions to Chapter 2 45 Solutions to Chapter 3 52
2: Inverses and determinants 8 3: Eigenvalues and diagonalisation 13 4: Vector spaces 18 5: Linear mappings 23 6: Inner product spaces 29 Solutions to Chapter 1 32 Solutions to Chapter 2 45 Solutions to Chapter 3 52 Solutions to Chapter 4 62 Solutions to Chapter 5 73
2: Inverses and determinants 8 3: Eigenvalues and diagonalisation 13 4: Vector spaces 18 5: Linear mappings 23 6: Inner product spaces 29 Solutions to Chapter 1 32 Solutions to Chapter 2 45 Solutions to Chapter 3 52 Solutions to Chapter 4 62 Solutions to Chapter 5 73 Solutions to Chapter 6 85
2: Inverses and determinants 8 3: Eigenvalues and diagonalisation 13 4: Vector spaces 18 5: Linear mappings 23 6: Inner product spaces 29 Solutions to Chapter 1 32 Solutions to Chapter 2 45 Solutions to Chapter 3 52 Solutions to Chapter 4 62 Solutions to Chapter 5 73 Solutions to Chapter 6 85 Test paper 1 92
2: Inverses and determinants 8 3: Eigenvalues and diagonalisation 13 4: Vector spaces 18 5: Linear mappings 23 6: Inner product spaces 29 Solutions to Chapter 1 32 Solutions to Chapter 2 45 Solutions to Chapter 3 52 Solutions to Chapter 4 62 Solutions to Chapter 5 73 Solutions to Chapter 6 85 Test paper 1 92 Test paper 2 94
2: Inverses and determinants 8 3: Eigenvalues and diagonalisation 13 4: Vector spaces 18 5: Linear mappings 23 6: Inner product spaces 29 Solutions to Chapter 1 32 Solutions to Chapter 2 45 Solutions to Chapter 3 52 Solutions to Chapter 4 62 Solutions to Chapter 4 62 Solutions to Chapter 5 73 Solutions to Chapter 6 85 Test paper 1 92 Test paper 2 94

Contents

Book 3: Groups, rings and fields

1: Groups 1

2: Rings and fields 19

Solutions to Chapter 1 32

Solutions to Chapter 2 63

Test paper 1 88

Test paper 2 90

Test paper 3 92

Test paper 4 94