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8.1 The Hessian matrix; 8.2 Two-variable functions; 8.3 Multivariate functions; 8.4 Optimization with one constraint; 8.5 Matlab example; 9 Indefinite and definite integrals; 9.1 Indefinite integrals; 9.2 Integration by substitution and integration by parts; 9.3 Definite integrals; 9.4 Mathematica examples; 10 Mathematics of finance; 10.1 Simple interest; 10.2 Compound interest; 10.3 Continuous compounding; 10.4 Effective annual rate; 10.5 Present value; 10.6 Car loans and mortgages; 11 Complex numbers; 11.1 The set of complex numbers; 11.2 Polar and trigonometric form of complex numbers; 11.3 Mathematica examples; 12 Difference and differential equations; 12.1 Difference equations; 12.2 Differential equations; Answers to odd-numbered problems; Index

Sommario/riassunto

This textbook, designed for a single semester course, begins with basic set theory, and moves briskly through fundamental, exponential, and logarithmic functions. Limits and derivatives finish the preparation for economic applications, which are introduced in chapters on univariate functions, matrix algebra, and the constrained and unconstrained optimization of univariate and multivariate functions. The text finishes with chapters on integrals, the mathematics of finance, complex numbers, and differential and difference equations. Rich in targeted examples and explanations, Mathematica examples; 12 Difference and differential equations; 12.1 Difference equations; 12.2 Differential equations; Answers to odd-numbered problems; Index