1.	Record Nr.	UNINA9910792091303321
	Autore	Melkumian Arsen <1969-, >
	Titolo	Mathematical economics / / Arsen Melkumian
	Pubbl/distr/stampa	London ; ; New York : , : Routledge, , 2011
	ISBN	1-136-86898-4
		1-283-59045-X
		9786613902900
		0-203-83721-5
		1-136-86899-2
	Descrizione fisica	1 online resource (232 p.)
	Disciplina	330.01/51
		330.0151
	Soggetti	Economics, Mathematical
		Mathematics
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Includes index.
	Nota di contenuto	Cover; Mathematical Economics; Copyright; Contents; Preface; Acknowledgements; 1 Introduction; 1.1 Basic set theory; 1.2 Functions from R to R; 2 Fundamental functions and series; 2.1 Power functions; 2.2 Exponents; 2.3 Sequences and series; 2.4 Some rules of summation; 3 Exponential and logarithmic functions; 3.1 Logarithmic function; 3.2 Exponential functions; 3.3 Mathematica examples; 4 Limits and derivatives; 4.1 Limits; 4.2 First- and second-order derivatives; 4.3 The chain rule; 4.4 Total and marginal functions; 4.5 Growth rates; 5 Optimization of univariate functions 5.1 Local and global extrema5.2 Taylor series; 5.3 Mathematica examples; 6 Matrix algebra; 6.1 Introduction; 6.2 Determinant of a matrix; 6.3 The matrix of cofactors; 6.4 The inverse matrix; 6.5 Systems of linear equations; 7 Further topics in matrix algebra; 7.1 Linear dependence; 7.2 Quadratic forms; 7.3 The Hessian matrix; 7.4 Row echelon form of a matrix; 7.5 The rank of a matrix; 7.6 Eigenvalues and eigenvectors; 7.7 Kronecker product; 7.8 Vectorization of a matrix; 7.9 Mathematica examples; 7.10 Matlab examples; 8 Optimization of bivariate and multivariate functions

8.1 The Hessian matrix8.2 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 examples12 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, Mathematic |