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Nota di contenuto	Cover -- Half Title Page -- Title Page -- Copyright Page -- Contents -- Preface -- Publisher's Acknowledgements -- 1 EssentialsofLogicand Set Theory -- 1.1 Essentials of Set Theory -- 1.2 Some Aspects of Logic -- 1.3 Mathematical Proofs -- 1.4 Mathematical Induction -- Review Exercises -- 2 Algebra -- 2.1 The Real Numbers -- 2.2 Integer Powers -- 2.3 Rules of Algebra -- 2.4 Fractions -- 2.5 Fractional Powers -- 2.6 Inequalities -- 2.7 Intervals and Absolute Values -- 2.8 Summation -- 2.9 Rules for Sums -- 2.10 Newton's Binomial Formula -- 2.11 Double Sums -- Review Exercises -- 3 Solving Equations -- 3.1 Solving Equations -- 3.2 Equations and Their Parameters -- 3.3 Quadratic Equations -- 3.4 Nonlinear Equations -- 3.5 Using Implication Arrows -- 3.6 Two Linear Equations in Two Unknowns -- Review Exercises -- 4 Functions of One Variable -- 4.1 Introduction -- 4.2 Basic Definitions -- 4.3 Graphs of Functions -- 4.4 Linear Functions -- 4.5 Linear Models -- 4.6 Quadratic Functions -- 4.7 Polynomials -- 4.8 Power Functions -- 4.9 Exponential Functions -- 4.10 Logarithmic Functions -- Review Exercises -- 5 Properties of Functions -- 5.1 Shifting Graphs -- 5.2 New Functions from Old -- 5.3 Inverse Functions -- 5.4 Graphs of Equations -- 5.5 Distance in the Plane -- 5.6 General Functions -- Review Exercises -- 6 Differentiation -- 6.1 Slopes of Curves -- 6.2 Tangents and Derivatives -- 6.3 Increasing and Decreasing Functions -- 6.4 Rates of Change -- 6.5 A Dash of Limits -- 6.6 Simple Rules for Differentiation -- 6.7 Sums, Products, and Quotients -- 6.8 The Chain

Rule -- 6.9 Higher-Order Derivatives -- 6.10 Exponential Functions -- 6.11 Logarithmic Functions -- Review Exercises -- 7 Derivatives in Use -- 7.1 Implicit Differentiation -- 7.2 Economic Examples -- 7.3 Differentiating the Inverse -- 7.4 Linear Approximations -- 7.5 Polynomial Approximations.
7.6 Taylor's Formula -- 7.7 Elasticities -- 7.8 Continuity -- 7.9 More on Limits -- 7.10 The Intermediate Value Theorem and Newton's Method -- 7.11 Infinite Sequences -- 7.12 L'Hˆopital's Rule -- Review Exercises -- 8 Single-Variable Optimization -- 8.1 Extreme Points -- 8.2 Simple Tests for Extreme Points -- 8.3 Economic Examples -- 8.4 The Extreme Value Theorem -- 8.5 Further Economic Examples -- 8.6 Local Extreme Points -- 8.7 Inflection Points, Concavity, and Convexity -- Review Exercises -- 9 Integration -- 9.1 Indefinite Integrals -- 9.2 Area and Definite Integrals -- 9.3 Properties of Definite Integrals -- 9.4 Economic Applications -- 9.5 Integration by Parts -- 9.6 Integration by Substitution -- 9.7 Infinite Intervals of Integration -- 9.8 A Glimpse at Differential Equations -- 9.9 Separable and Linear Differential Equations -- Review Exercises -- 10 Topics in Financial Mathematics -- 10.1 Interest Periods and Effective Rates -- 10.2 Continuous Compounding -- 10.3 Present Value -- 10.4 Geometric Series -- 10.5 Total Present Value -- 10.6 Mortgage Repayments -- 10.7 Internal Rate of Return -- 10.8 A Glimpse at Difference Equations -- Review Exercises -- 11 Functions of Many Variables -- 11.1 Functions of Two Variables -- 11.2 Partial Derivatives with Two Variables -- 11.3 Geometric Representation -- 11.4 Surfaces and Distance -- 11.5 Functions of More Variables -- 11.6 Partial Derivatives with More Variables -- 11.7 Economic Applications -- 11.8 Partial Elasticities -- Review Exercises -- 12 Tools for Comparative Statics -- 12.1 A Simple Chain Rule -- 12.2 Chain Rules for Many Variables -- 12.3 Implicit Differentiation along a Level Curve -- 12.4 More General Cases -- 12.5 Elasticity of Substitution -- 12.6 Homogeneous Functions of Two Variables -- 12.7 Homogeneous and Homothetic Functions -- 12.8 Linear Approximations -- 12.9 Differentials.
12.10 Systems of Equations -- 12.11 Differentiating Systems of Equations -- Review Exercises -- 13 Multivariable Optimization -- 13.1 Two Choice Variables: Necessary Conditions -- 13.2 Two Choice Variables: Sufficient Conditions -- 13.3 Local Extreme Points -- 13.4 Linear Models with Quadratic Objectives -- 13.5 The Extreme Value Theorem -- 13.6 The General Case -- 13.7 Comparative Statics and the Envelope Theorem -- Review Exercises -- 14 Constrained Optimization -- 14.1 The Lagrange Multiplier Method -- 14.2 Interpreting the Lagrange Multiplier -- 14.3 Multiple Solution Candidates -- 14.4 Why the Lagrange Method Works -- 14.5 Sufficient Conditions -- 14.6 Additional Variables and Constraints -- 14.7 Comparative Statics -- 14.8 Nonlinear Programming: A Simple Case -- 14.9 Multiple Inequality Constraints -- 14.10 Nonnegativity Constraints -- Review Exercises -- 15 Matrix and Vector Algebra -- 15.1 Systems of Linear Equations -- 15.2 Matrices and Matrix Operations -- 15.3 Matrix Multiplication -- 15.4 Rules for Matrix Multiplication -- 15.5 The Transpose -- 15.6 Gaussian Elimination -- 15.7 Vectors -- 15.8 Geometric Interpretation of Vectors -- 15.9 Lines and Planes -- Review Exercises -- 16 Determinants and Inverse Matrices -- 16.1 Determinants of Order 2 -- 16.2 Determinants of Order 3 -- 16.3 Determinants in General -- 16.4 Basic Rules for Determinants -- 16.5 Expansion by Cofactors -- 16.6 The Inverse of a Matrix -- 16.7 A General Formula for the Inverse -- 16.8 Cramer's Rule -- 16.9 The Leontief Model -- Review Exercises -- 17 Linear Programming 665 -- 17.1 A Graphical Approach -- 17.2 Introduction to Duality Theory -- 17.3 The Duality Theorem -- 17.4 A

General Economic Interpretation -- 17.5 Complementary Slackness -- Review Exercises -- Appendix -- Solutions to the Exercises -- Index.

Sommario/riassunto

ESSENTIAL MATHEMATICS FOR ECONOMIC ANALYSIS Fifth Edition An extensive introduction to all the mathematical tools an economist needs is provided in this worldwide bestseller. "The scope of the book is to be applauded" Dr Michael Reynolds, University of Bradford "Excellent book on calculus with several economic applications" Mauro Bambi, University of York New to this edition: The introductory chapters have been restructured to more logically fit with teaching. Several new exercises have been introduced, as well as fuller solutions to existing ones. More coverage of the history of mathematical and economic ideas has been added, as well as of the scientists who developed them. New example based on the 2014 UK reform of housing taxation illustrating how a discontinuous function can have significant economic consequences. The associated material in MyMathLab has been expanded and improved. Knut Sydsaeter was Emeritus Professor of Mathematics in the Economics Department at the University of Oslo, where he had taught mathematics for economists for over 45 years. Peter Hammond is currently a Professor of Economics at the University of Warwick, where he moved in 2007 after becoming an Emeritus Professor at Stanford University. He has taught mathematics for economists at both universities, as well as at the Universities of Oxford and Essex. Arne Strom is Associate Professor Emeritus at the University of Oslo and has extensive experience in teaching mathematics for economists in the Department of Economics there. Andres Carvajal is an Associate Professor in the Department of Economics at University of California, Davis.