1. Record Nr. UNINA9910785723903321 Autore Kalman Dan Titolo Elementary mathematical models [[electronic resource]]: order aplenty and a glimpse of chaos / / Dan Kalman [Washington, D.C.],: Mathematical Association of America, c1997 Pubbl/distr/stampa **ISBN** 1-61444-601-6 Descrizione fisica 1 online resource (362 p.) Collana Classroom resource materials 511/.8 Disciplina Soggetti Mathematical models Mathematical analysis Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Includes index. ""cover ""; ""copyright page""; ""title page""; ""Preface""; ""Teaching Nota di contenuto EMM""; ""Classroom Experience""; ""Acknowledgments""; ""Contents""; ""1 Overview""; ""An Example""; ""Three Methods: Numerical, Graphical, Theoretical""; ""Mathematical Models""; ""Chaos""; ""Summary""; ""Exercises"": ""Solutions to Selected Exercises"": ""2 Sequences and Difference Equations""; ""Sequences""; ""Difference Equations""; ""The Numerical Approach""; ""The Graphical Approach""; ""The Theoretical Approach""; ""Back to Reality""; ""Sample Difference Equations""; ""Summary""; ""Exercises"" ""Solutions to Selected Exercises"""3 Arithmetic Growth"": ""The Arithmetic Growth Difference Equation""; ""Examples""; ""Numerical, Graphical, and Theoretical Properties""; ""Proportional Reasoning and Continuous Models""; ""Beyond Arithmetic Growth: Oil Reserves""; ""Summary""; ""Exercises""; ""Solutions to Selected Exercises""; ""4 Linear Graphs, Functions, and Equations""; ""Linear Functions and Equations""; ""Continuous Models""; ""Algebra and Solving Linear Equations""; ""Graphs of Linear Equations""; ""Fitting a Line to Data""; ""Formulating Linear Models""; ""Summary"" ""Exercises""""Solutions to Selected Exercises"": ""5 Quadratic Growth Models""; ""A New School Population Example""; ""Quadratic Growth Models""; ""Quadratic Growth Difference Equations""; ""Applications of Quadratic Growth""; ""Properties of Quadratic Growth Models""; ""Whole

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