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| 1. Record Nr.           | UNINA9911007078403321  |
| Autore                  | Rosenlicht Maxwell   |
| Titolo                  | Introduction to Analysis   |
| Pubbl/distr/stampa      | Newburyport, : Dover Publications, 2012  |
| ISBN                    | 9780486134680<br>0486134687<br>9781621986324<br>1621986322   |
| Edizione                | [1st ed.]  |
| Descrizione fisica      | 1 online resource (455 p.)   |
| Collana                 | Dover Books on Mathematics   |
| Disciplina              | 515  |
| Soggetti                | Mathematical analysis<br>Engineering & Applied Sciences<br>Applied Mathematics   |
| Lingua di pubblicazione | Inglese  |
| Formato                 | Materiale a stampa   |
| Livello bibliografico   | Monografia   |
| Note generali           | Description based upon print version of record.  |
| Nota di contenuto       | Cover; Title Page; Copyright Page; Preface; Contents; Chapter I. Notions from Set Theory; 1. Sets and elements. Subsets; 2. Operations on sets; 3. Functions; 4. Finite and infinite sets; Problems; Chapter II. The Real Number System; 1. The field properties; 2. Order; 3. The least upper bound property; 4. The existence of square roots; Problems; Chapter III. Metric Spaces; 1. Definition of metric space. Examples; 2. Open and closed sets; 3. Convergent sequences; 4. Completeness; 5. Compactness; 6. Connectedness; Problems; Chapter IV. Continuous Functions<br>1. Definition of continuity. Examples 2. Continuity and limits; 3. The continuity of rational operations. Functions with values in $\mathbb{E}_n$ ; 4. Continuous functions on a compact metric space; 5. Continuous functions on a connected metric space; 6. Sequences of functions; Problems; Chapter V. Differentiation; 1. The definition of derivative; 2. Rules of differentiation; 3. The mean value theorem; 4. Taylor's theorem; Problems; Chapter VI. Riemann Integration; 1. Definitions and examples; 2. Linearity and order properties of the integral; 3. Existence of the integral<br>4. The fundamental theorem of calculus 5. The logarithmic and |

exponential functions; Problems; Chapter VII. Interchange of Limit Operations; 1. Integration and differentiation of sequences of functions; 2. Infinite series; 3. Power series; 4. The trigonometric functions; 5. Differentiation under the integral sign; Problems; Chapter VIII. The Method of Successive Approximations; 1. The fixed point theorem; 2. The simplest case of the implicit function theorem; 3. Existence and uniqueness theorems for ordinary differential equations; Problems  
Chapter IX. Partial Differentiation 1. Definitions and basic properties; 2. Higher derivatives; 3. The implicit function theorem; Problems; Chapter X. Multiple Integrals; 1. Riemann integration on a closed interval in  $E_n$ . Examples and basic properties; 2. Existence of the integral. Integration on arbitrary subsets of  $E_n$ . Volume; 3. Iterated integrals; 4. Change of variable; Problems; Suggestions for Further Reading; Index

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Sommario/riassunto

<DIV>Written for junior and senior undergraduates, this remarkably clear and accessible treatment covers set theory, the real number system, metric spaces, continuous functions, Riemann integration, multiple integrals, and more. Rigorous and carefully presented, the text assumes a year of calculus and features problems at the end of each chapter. 1968 edition.</DIV>

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