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Nota di contenuto	Cover; Half-title; Title; Copyright; Dedication; Contents; Preface; 1 Factorials and Binomial Coefficients; 2 The Method of Partial Fractions; 3 A Simple Rational Function; 4 A Review of Power Series; 5 The Exponential and Logarithm Functions; 6 The Trigonometric Functions and Pi; 7 A Quartic Integral; 8 The Normal Integral; 9 Euler's Constant; 10 Eulerian Integrals: The Gamma and Beta Functions; 11 The Riemann Zeta Function; 12 Logarithmic Integrals; 13 A Master Formula; Appendix: The Revolutionary WZ Method; Bibliography; Index
Sommario/riassunto	The problem of evaluating integrals is well known to every student who has had a year of calculus. It was an especially important subject in 19th century analysis and it has now been revived with the appearance of symbolic languages. In this book, the authors use the problem of exact evaluation of definite integrals as a starting point for exploring

many areas of mathematics. The questions discussed in this book, first published in 2004, are as old as calculus itself. In presenting the combination of methods required for the evaluation of most integrals, the authors take the most interesting, rather than the shortest, path to the results. Along the way, they illuminate connections with many subjects, including analysis, number theory, algebra and combinatorics. This will be a guided tour of exciting discovery for undergraduates and their teachers in mathematics, computer science, physics, and engineering.

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