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Autore	Bramanti Marco
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Nota di contenuto	Part 1. The Language of Mathematics -- A Few Ambiguities of Everyday Language -- To represent by Sets -- Propositions and Properties -- Proofs, Implications and Counterexamples -- Negations and Indirect Proofs -- Formulae and Indices -- Saturation of Indices and Syntactic Consistency of a Formula -- Induction and Natural Numbers -- Part 2. The Study of a Mathematical Book -- To Read a Definition -- To Understand, i.e. to Know How to Reuse -- To Learn How to Correct -- To Sift the Ideas -- To Understand, i.e. to Know How to Explain -- Part 3. Pages and Ideas -- Majorizations -- Uniqueness Proofs (Level B) -- Functions and Set Theoretic Arguments -- Tiles, Polyhedra, Characterizations -- Index. .
Sommario/riassunto	This book is dedicated to preparing prospective college students for the study of mathematics. It can be used at the end of high school or during the first year of college, for personal study or for introductory courses. It aims to set a meeting between two relatives who rarely speak to each other: the Mathematics of Beauty, which shows up in some popular books and films, and the Mathematics of Toil, which is widely known. Toil can be overcome through an appropriate method of

work. Beauty will be found in the achievement of a way of thinking. The first part concerns the mathematical language: the expressions “for all”, “there exists”, “implies”, “is false”, ...; what is a proof by contradiction; how to use indices, sums, induction. The second part tackles specific difficulties: to study a definition, to understand an idea and apply it, to fix a slightly wrong argument, to discuss suggestions, to explain a proof. The third part presents customary techniques and points of view in college mathematics. The reader can choose one of three difficulty levels (A, B, C).
