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Autore	Caminha Muniz Neto Antonio
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Sommario/riassunto	This book provides a comprehensive, in-depth overview of elementary mathematics as explored in Mathematical Olympiads around the world. It expands on topics usually encountered in high school and could even

be used as preparation for a first-semester undergraduate course. This third and last volume covers Counting, Generating Functions, Graph Theory, Number Theory, Complex Numbers, Polynomials, and much more. As part of a collection, the book differs from other publications in this field by not being a mere selection of questions or a set of tips and tricks that applies to specific problems. It starts from the most basic theoretical principles, without being either too general or too axiomatic. Examples and problems are discussed only if they are helpful as applications of the theory. Propositions are proved in detail and subsequently applied to Olympic problems or to other problems at the Olympic level. The book also explores some of the hardest problems presented at National and International Mathematics Olympiads, as well as many essential theorems related to the content. An extensive Appendix offering hints on or full solutions for all difficult problems rounds out the book.