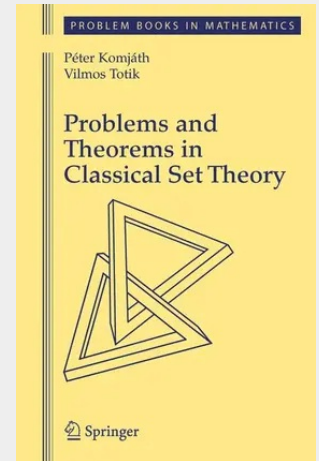


## Problems and Theorems in Classical Set Theory

Although the first decades of the 20th century saw some strong debates on set theory and the foundation of mathematics, afterwards set theory has turned into a solid branch of mathematics, indeed, so solid, that it serves as the foundation of the whole building of mathematics. Later generations, honest to Hilbert's dictum, "No one can chase us out of the paradise that Cantor has created for us" proved countless deep and interesting theorems and also applied the methods of set theory to various problems in algebra, topology, infinitary combinatorics, and real analysis. The invention of forcing produced a powerful, technically sophisticated tool for solving unsolvable problems. Still, most results of the pre-Cohen era can be digested with just the knowledge of a commonsense introduction to the topic. And it is a worthy effort, here we refer not just to usefulness, but, first and foremost, to mathematical beauty. In this volume we offer a collection of various problems in set theory. Most of classical set theory is covered, classical in the sense that independence methods are not used, but classical also in the sense that most results come from the period, say, 1920–1970. Many problems are also related to other fields of mathematics such as algebra, combinatorics, topology, and real analysis. We do not concentrate on the axiomatic framework, although some aspects, such as the axiom of foundation or the role of the axiom of choice, are elaborated.

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