

In this thesis, we examine the various paradoxes in all their diversity. We begin by introducing the reader to paradoxes concerning infinity and its basic arithmetic. We then introduce several geometric and algebraic paradoxes that arise from seemingly contradictory decompositions. The paper makes extensive use of the notion of equidecomposability and examines its properties in detail. We conclude by comparing it with scissor congruence and clarifying the differences between them. The reader will also learn the necessary background information from measure theory and algebra, which are key areas for finding the free subgroup generating paradoxical decompositions. The final section is devoted to the main topic of the paper, the Banach-Tarski paradox, where several propositions are proved and the operation of this paradox in various dimensions is briefly examined.