

Game theory is a discipline of applied mathematics that analyses a wide range of decision situations. In this thesis the reader is informed about the basic terms of game theory, some of them are illustrated on simple examples. The two dimensional Brouwer fixed-point theorem is proven using the Hex game. In addition to the formulation and proof of Nash's theorem, the thesis presents several methods for finding Nash equilibrium points, such as the simplex method. Their application to a specific game demonstrates the practical use of these methods. The thesis is intended for readers interested in the game theory, it does not, however, require any previous knowledge of this field of mathematics.