

Abstract: The Bachelor's thesis present an overview and description of selected probability theory paradoxes, namely the paradox of Monty Hall, the Bertrand's paradox and the St. Peterburg paradox. In every chapter the reader is at first apprised of the formulation and the essence of the paradox. Then we show some possible solutions of this paradox. In original formulation of Monty Hall paradox there exists just one solution which can be reached by using two different ways. We add also some simple modifications to this particular paradox. The formulation of Bertrand's paradox is ambiguous which we show by using four selected approaches. And very similar situation arises in St. Peterburg paradox which we resolve by using three different approaches.