ABSTRACT

This thesis *Models of Lobachevskij's geometry and the possibilities of their use at secondary school* focuses on one kind of non-Euclidean geometries, the Bolyai – Lobachevskij's geometry. The first chapter describes the history of non-Euclidean geometry, shows difficulties of understanding of one publication dedicated to these problems by current students of secondary schools and shows some chosen methods in the didactics of mathematics, especialy the constructivist method. The second chapter is dedicated to elemental concepts of projective geometry, Bolyai – Lobachevskij's geometry and it shows its basic models. It further analyses the specific features of this kind of geometry in Beltrami – Klein's model, especially mutual positions of straight lines. This theses further contains a set of gradual tasks. The third chapter is dedicated to the description of a didactical experiment. In this experiment were students of secondary school acquainted with this theory and tasks, which they solved. Student's solution were writen down and than analysed in the constructivist methodology term in the didactics of mathematics.