

Title: Lobachevskian geometry

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Abstract: The aim of this bachelor's thesis is to introduce the topic of Lobachevskian geometry to secondary school students. In the first chapter, we focus on the history of the discovery of Lobachevskian geometry due to attempts to prove Euclid's fifth postulate. In the second chapter we explain the basic terms, in the third chapter we list and prove chosen theorems from absolute geometry. The fourth chapter deals with theorems that are equivalent to the fifth postulate. By negating them, together with the facts from the chapter on absolute geometry, we obtain several theorems from Lobachevskian geometry in the fifth chapter. In the final chapter, we introduce Poincaré's model of the half-plane and thus gain more vivid idea about the theorems that we built in the previous chapter.

Keywords: non-Euclidean geometry; Lobachevskian geometry; Euclidean geometry