

The aim of the thesis is to find out students' reasoning of chosen word problem by using quadratic equation. The work focuses on specific errors and problems reported by students and evaluated by Newman's method of Error Causes for Written Mathematical Tasks. The theoretical work was based on analyse of current mathematical textbooks and comparison with several international pedagogical studies and thesis with similar specialization. Furthermore, a detailed description of methodology and my own research are described in practical part of the thesis. Principle of study was to chose group of the students from two different high schools (one well know grammar school and one business high school in Prague) and record the process of reasoning the word problem by camera. The conclusion is dedicated to proper analyses of mistakes and problems during the student's reasonings.