

**Abstract:**

The theme of the diploma work are pupil's strategies of solving selected problems focusing on area of plane figures. The theoretical part includes definitions of basic ideas – problem, area, problems of area, solving problems, solving strategies. Plane figures are classified into particular school classes. Every plane figure is presented by examples of types of the problems, which are most common in elementary schools. The practical part of the work begins with the preparation of an experiment, where the objective of the experiment is introduced, selection of problems for this experiment, description of tested group and the way of getting data. Follows the description of realization of the experiment. It contains three problems of the area of plane figures which were solved by pupils of the eighth and the ninth class. Supposed strategies, expected mistakes and analysis of pupil's solutions are presented. Expected and obtained solving strategies are compared for every problems. The result of the experiment is summarised in the conclusion.

**Keywords:**

problem, area, problems of area, solving problems, solving strategies, heuristic strategy