

Concepts from graph theory in primary school mathematic curriculum

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Abstract

This diploma thesis is focused on graph theory, especially on the concepts that are used in primary school mathematic curriculum. Furthermore it shows the reasons why it is necessary to include these graph concepts in young pupil's education.

In the theoretical part, basic terms and definitions from chosen parts of graph theory are mentioned and few examples demonstrate how the applications of graph theory can help with solving real-life situations. The practical part summarized the current use of some graph theory concepts in primary school mathematic curriculum. This part also includes the demonstration of the graded series of problems and the sheets of exercises that could be usable in introducing and practising of some graph concepts. The experiment with mosaics, that was carried out within this diploma thesis, is an illustration how to connect mathematical and non-mathematical world and how to integrate research activities in young pupil's education.

Key words: mathematics, graph theory, graph vertex, degree of graph vertex, edge of graph, problem of two colours, child of primary school