The thesis contains a textbook for high school pupils. The aim of the textbook is to teach the reader how to solve problems concerning inequalities proposed at Czech or international mathematical competitions for high school pupils.

In the first part we present some basic inequalities (AG, Cauchy’s inequality) and we show how to understand them and how to use them. In the second part we broaden reader’s horizon by presenting rearrangement and Jensen’s inequality. In the third part we present widely applicable methods such as ”Abstract Concreteness Method” or ”Sum of Squares Method”. Some techniques concerning the Sum of Squares Method were written by Phan Kim Hung in 2006.

We are trying to significantly involve the reader. We prefer just hints to many of the proposed problems rather than complete solutions and we give some harder problems to solve at the end of each part.