This thesis focuses on the use of TI InterActive! CAS system in secondary school mathematics teaching. Results of the survey “Programs supporting mathematics education”, presented in the preface of the work indicate that CAS systems are far from widespread in our secondary schools. Possible reasons of this situation are considered. Overview of existing computer algebra systems is given with their common characteristics and a comparison of programs most often used in our schools (Derive, Maple, and Mathematica).

The part dedicated to TI InterActive! itself starts with a list of its features and properties. Following are brief operating instructions for TI InterActive!. Advantages and disadvantages of this program are detailed here, both in comparison with other CAS systems and with regard to mathematics teaching at our secondary schools. Possible ways to use TI InterActive! are listed, along with fields it is most fit to. These conclusions are illustrated with samples created with TI InterActive!, most extensive of them being materials for teaching functions and differential calculus.