Groebner bases are useful tool of algebraic geometry for geometry proving. In the thesis we are presenting an automatic geometric theorem proving method in two variants. Firstly, a variant based on the book D. Cox, J. Little, D. O'Shea Ideals, varieties, and algorithms. An introduction to computational algebraic geometry and commutative algebra and secondly a variant based on the book D. Stanovský, L. Barto, Počítačová algebra. We summarize theory, which is necessary for deduction of the method, then theory, which is necessary for definition of Groebner base and theorem about her properties. The thesis is including solved problems used for motivate several steps in method and solved exercises from already mentioned book by D. Cox, J. Little, D. O'Shea, some of them are solved by both variants. There is also own proof of decomposition of an affine variety in chapter 2.