

In this diploma thesis we will introduce six definitions of the natural exponential function and five definitions of the natural logarithmic function. We will prove the definitions' correctness, derive basic properties of both functions and show the equivalence of all definitions for each function. We will see how these functions are defined in some textbooks for universities and in textbooks for grammar schools. We will discuss the benefits and drawbacks of all definitions and will use the criteria such as required theory and difficulty or length of proofs. At the end of the thesis we will make some recommendations regarding defining these functions at high schools and universities and we will give several suggestions for an additional research.