Abstract

We shall discuss the basic tools required to understand the new Galois theory that has been developed for the theory of differential equations. Since the classical Galois theory for polynomial equations is very well known and is handy for the solvability criteria for polynomial equations, it is believed that the differential Galois theory turns out to be equally useful in the theory of differential equations. We will see the similarities and the differences between the polynomial and the differential Galois theories, and explain the fundamental theorem of differential Galois theory. We will also discuss a few examples.