Abstract

In this paper we present some results related to the problem of finding periodic representations for algebraic numbers. In particular, we analyze the problem for cubic irrationalities. We show an interesting relationship between the convergents of bifurcating continued fractions related to a couple of cubic irrationalities, and a particular generalization of the Rédei polynomials. Moreover, we give a method to construct a periodic bifurcating continued fraction for any cubic root paired with another determined cubic root.