Riccati meets Fibonacci

Wolfdieter L a n g

The generating functions for generalized *Fibonacci* and *Lucas* numbers are shown to be the unique solutions to *Riccati* equations with certain initial conditions. This observation leads directly to recursion relations for k-fold convolutions of these numbers which have been partly found earlier in a different way. A generalization of this method to so called $p-$*Fibonacci* numbers is also considered.