Abstract

For the Fibonacci numbers, the summation formula

$$\sum_{k=1}^{n} F_k^2 = F_n F_{n+1}$$

is well-known. Its charm lies in the fact that the right side is a product of terms from the Fibonacci sequence. In the earlier paper [5], the author presents similar formulas where, in each case, the right side consists of arbitrarily long products of an *even* number of distinct terms from the Fibonacci sequence. The formulas in question contain several parameters, and this contributes to their generality.

In this paper, we provide additional results of a similar nature where the right side consists of arbitrarily long products of an *odd* number of distinct terms from the Fibonacci sequence. Most of the results that we present apply to a sequence that generalizes both the Fibonacci and Lucas numbers.