

Jaroslav Seibert and Pavel Trojovský
On sums of certain products of Lucas numbers,
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Abstract

New results about certain sums $S_n(k)$ of products of the Lucas numbers are derived. These sums are related to the generating function of the k -th powers of the Fibonacci numbers. The sums for $S_n(k)$ are expressed by the binomial and the Fibonomial coefficients. Proofs of these formulas are based on a special inverse formula.