Ozdemir, Gulsah; Simsek, Yilmaz
Generating functions for two-variable polynomials related to a family of Fibonacci type polynomials and numbers. (English) Zbl 1459.11044
Filomat 30, No. 4, 969-975 (2016).

Summary: The purpose of this paper is to construct generating functions for the family of the Fibonacci and Jacobsthal polynomials. Using these generating functions and their functional equations, we investigate some properties of these polynomials. We also give relationships between the Fibonacci, Jacobsthal, Chebyshev polynomials and the other well known polynomials. Finally, we give some infinite series applications related to these polynomials and their generating functions.

MSC:
11B39 Fibonacci and Lucas numbers and polynomials and generalizations
05A15 Exact enumeration problems, generating functions

Keywords:
Fibonacci numbers; Fibonacci polynomials; Jacobsthal polynomials; Chebyshev polynomials; Vieta-Fibonacci polynomials; Vieta-Lucas polynomials; Humbert polynomials; Gegenbauer polynomials; generating functions

Full Text: DOI