

GENERATING FUNCTIONS OF THE PRODUCTS OF BIVARIATE COMPLEX FIBONACCI POLYNOMIALS WITH GAUSSIAN NUMBERS AND POLYNOMIALS

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Abstract

In this paper, we define and study the bivariate complex Fibonacci and Lucas polynomials. We introduce an operator in order to derive some new symmetric properties of bivariate complex Fibonacci and bivariate complex Lucas polynomials, and give the generating functions of the products of bivariate complex Fibonacci polynomials with Gaussian Fibonacci, Gaussian Lucas and Gaussian Jacobsthal numbers, Gaussian Pell numbers, Gaussian Pell Lucas numbers. By making use of the operator defined in this paper, we give some new generating functions of the products of bivariate complex Fibonacci polynomials with Gaussian Jacobsthal, Gaussian Jacobsthal Lucas polynomials and Gaussian Pell polynomials.

Keywords: symmetric functions, generating functions, bivariate complex Fibonacci polynomials, bivariate complex Lucas polynomials.

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