

Unification of q -exponential function and related q -numbers and polynomials

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Abstract: The main purpose of this paper is to introduce and investigate a class of generalized Bernoulli polynomials and Euler polynomials based on the generating function. we unify all forms of q -exponential functions by one more parameter. we study some conditions on this parameter to related this to some classical results for q -Bernoulli numbers and polynomials. This unification reach to the nonlinear system of equations for that extra parameter and give us the general form of symmetric q -exponential function.

Keywords: q -Exponential function, q -calculus, q -Bernoulli polynomials, q -Euler number.

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