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ome theorems involving powers of generalized Fibonacci numbers at non-equidistant points,
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## Abstract

The paper begins with a brief review of the generalized Fibonacci polynomials, satisfying the recurrence :  $G_{n+2}(x) = xG_{n+1}(x) + G_n(x)$ , with arbitrary initial values. After these introductory remarks, the paper points out that the plethora of identities that abound in the literature and that are associated with these sequences are based on evenly-spaced values of the subscripts. As implied in the title, the paper generalizes such identities by stating and proving various theorems and corollaries, giving identities satisfied by the  $m^{\text{th}}$  powers of the  $G_n(x)$ 's (or special values thereof). In these generalizations, m is fixed, but the different values of n are arbitrary and therefore not equidistant, in general. Essentially, two main theorems of this nature are presented in this paper, of which the others are either corollaries or auxilliary results leading thereto.