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A Family of Sums of Gibonacci Polynomial Products of Order 4,
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Abstract

We explore sums of gibonacci polynomial products of order 4 for g_{4n-1}, g_{4n}, g_{4n+1}, g_{4n+2}, and g_{4n+3} in terms of g_{n-2}^i, g_n^j, and g_{n+2}^k, where g_n denotes the nth gibonacci polynomial, $0 \le i, j, k \le 4$, and $i+j+k = 4$. Correspondingly, they yield formulas for G_{4n-1}, G_{4n}, G_{4n+1}, G_{4n+2}, and G_{4n+3}, where G_n denotes the nth gibonacci number. In addition, they have Pell implications.