Identities from Weighted Motzkin Paths

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Abstract: Based on a weighted version of the bijection between Dyck paths and *2*-Motzkin paths, we find combinatorial interpretations of two identities related to the Narayana polynomials and the Catalan numbers. These interpretations answer two problems posed recently by Coker.

Keywords: Narayana number; Catalan number; Motzkin path; Weighted Motzkin path; Multiple Dyck path; Bijection

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