The Limiting Distribution of the Coefficients of the *q*-Catalan Numbers

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Abstract: We show that the limiting distributions of the coefficients of the q-Catalan numbers and the generalized q-Catalan numbers are normal. Despite the fact that these coefficients are not unimodal for small n, we conjecture that for sufficiently large n, the coefficients are unimodal and even log-concave except for a few terms of the head and tail.

AMS Classification: 05A16, 60C05

Keywords: Bernoulli number, *q*-Catalan number, unimodality, log-concavity, moment generating function.

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Return