1145-05-1713  Jonathan J Azose and Arthur T Benjamin* (benjamin@hmc.edu), Math Department, Harvey Mudd College, 301 Platt Blvd, Claremont, CA 91711. A Tiling Interpretation of q-Binomial Coefficients.

We provide a combinatorial interpretation of the q-binomial coefficients as counting weighted collections of tiled boards. Using this interpretation, we prove a new q-analogue to Lucas’ Theorem and new q-analogues to identities on the sums of integer squares and cubes. (Received September 24, 2018)