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Tri Lai* (tlai3@unl.edu), 1400 R Street, 203 Avery Hall, Department of Mathematics,
University of Nebraska - Lincoln, Lincoln, NE 68588-0130. *Enumeration of domino tilings of a
double Aztec rectangle.*

We investigate the connection between enumeration of lozenge tilings and enumeration of domino tilings by introducing the “double Aztec rectangles”, a new family of regions obtained by attaching two different Aztec rectangles. We prove a simple product formula for the generating function of domino tilings of a double Aztec rectangle, which involves the statistics as in the Aztec diamond theorem by Elkies, Kuperberg, Larsen, and Propp. Moreover, we consider the connection between the generating function and MacMahon’s q -enumeration of plane partitions fitting in a given box. (Received August 21, 2016)