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Michael Reid* (reid@math.ucf.edu), Department of Mathematics, University of Central Florida, Orlando, FL 32816. *Tiling with L polyominoes.*

Let L_n denote the polyomino of size n formed by placing a single square atop the leftmost square of a row of $n - 1$ squares. A necessary condition for a rectangle to be tileable by L_n is that its area is a multiple of n . We previously conjectured that, for odd n , this condition is also sufficient, if both sides are large enough. We also made the stronger conjecture that the same is true, even if the tile L_n may only be rotated, but not reflected.

We discuss the motivation for and significance of these conjectures, and show how they recently became theorems. (Received September 06, 2009)