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Marilyn Breen* (mbreen@ou.edu), Department of Mathematics, 601 Elm Avenue, University of Oklahoma, Norman, OK 73019. *Some combinatorial results for staircase visibility.*

Many results in convexity that involve the usual notion of visibility via straight line segments have interesting analogues that employ the idea of visibility via staircase paths. Here we present several examples of these analogues, including the following: In the plane, let C be an orthogonal polygon bounded by a simple closed curve, and assume that C is starshaped via staircase paths. Let P be a set in the complement of the interior of C , $\text{int } C$. If every 4 points of P see a boundary point of C via staircase paths in the complement of $\text{int } C$, then there is a boundary point b of C such that every point of P sees b (via staircase paths in the complement of $\text{int } C$). The number 4 is best possible, even if C is convex via staircase paths. (Received June 16, 2010)