A Note on Guarding Polyominoes
Val Pinciu, Southern Connecticut State University

We consider a variation of Chvatal’s art gallery theorem, where the art gallery (a polygon with \(n\) sides) is replaced with an \(m\)-polyomino, consisting of the connected union of \(m\) 1x1 unit squares called pixels. Our main result shows that an \(m\)-polyomino always has a pixel guard set of cardinality \([\frac{m+1}{11}] + [\frac{m+5}{11}] + [\frac{m+9}{11}]\). We also show that this bound is sharp, by constructing \(m\)-polyominoes that require exactly \([\frac{m+1}{11}] + [\frac{m+5}{11}] + [\frac{m+9}{11}]\) pixel guards.

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