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**T. S. Michael** and **Val Pinciu\*** (pinciuv1@southernct.edu). *Guarding Art Galleries, Fortresses and Prison Yards.*

The original art gallery problem, posed by Klee, asks for the minimum number of guards that are always sufficient and sometimes necessary to protect the interior of a polygon with  $n$  sides. Over the years numerous variations of this problem have been proposed and studied with different restrictions placed on the shape of the galleries and the power of guards. We extend and unify most known results about guarding orthogonal polygons by introducing the same-sign diagonal graphs of a convex quadrangulation and applying results about vertex covers for graphs. Our approach also yields new theorems and often guarantees two disjoint vertex guard sets of relatively small cardinality. (Received September 19, 2018)