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Thomas W Tucker* (ttucker@colgate.edu), Colgate University, Hamilton, NY 13346. *The clique number of a graph with dihedral vertex stabilizers.*

Call the action of the dihedral group D_n on the vertices of a regular n -gon, $n > 2$, *naturally dihedral*. We prove the following:

Theorem Let A be a subgroup of the automorphism group of a finite, connected graph G . Suppose that for each vertex v , the action of the stabilizer A_v on the edges incident to v is naturally dihedral. Then the clique number of G is 2, 3, 4 or 6.

The proof is short and involves the idea of angle measure at a vertex, based on the natural dihedral action. One of the many consequences is the classic result that the complete graph K_n underlies a regular (reflexible) map only for $n = 2, 3, 4, 6$. We also show for each $n = 2, 3, 4, 6$, there are infinitely many regular (reflexible) maps with clique number n . (Received January 18, 2012)