An Overview of Domination in Graphs of Minimum Degree 2

We aim to give a brief overview of domination in simle graphs. A set D of vertices is *dominating* in a graph G if every vertex of $G \setminus D$ is adjacent to a vertex in D. An arbitrary set A of vertices in a graph G *dominates* itself and the vertices which have neighbors in A. The *domination number*, $\gamma(G)$, of a graph G is the minimum size of a dominating set in G. We will examine some fundamental results in the subject of domination, especially Reed's where he proved that the domination number, $\gamma(G)$, of every n-vertex graph G with minimum degree at least 3 is at most $3n/8$ and conjectured that $\gamma(H) \leq \lceil n/3 \rceil$ for every connected 3-regular (cubic) n-vertex graph H. We will show that the conjecture is false and that the first bound could be improved.