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On the total coloring of planar graphs. (English) Zbl 0653.05029

J. Reine Angew. Math. 394, 180-185 (1989).

By Behzad and Vizing's conjecture (1968), $\kappa_t(G) \leq \Delta(G)+2$, where $\kappa_t(G)$ is the total chromatic number and Δ (G) - the maximal degree of a graph G. For planar graphs G it is proved here that $\kappa_t(G) \leq \Delta(G)+2$ if Δ (G)$\notin \{6,7,8\}$, $\kappa_t(G) \leq \Delta(G)+3$ always, and $\kappa_t(G) = \Delta(G)+1$ if Δ (G)≥ 14.

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MSC:

05C15 Coloring of graphs and hypergraphs
05C10 Planar graphs; geometric and topological aspects of graph theory

Keywords:

total chromatic number; maximal degree; planar graphs

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