Matthew A Jura* (jura@math.uconn.edu), 15 Baxter Rd, Mansfield, CT 06268. Reverse Mathematics of Theorems Involving the Coloring Number of Graphs.

We use reverse mathematics to analyze the proof theoretic strength of theorems that involve the notion of the coloring number of graphs. The coloring number Col(\(G\)) of a countable graph \(G\) is the least \(k \leq \omega\) such that there is a well ordering of \(G\) for which each node \(g \in G\) has at most \(k\) many predecessors connected to \(g\) by an edge. (Received September 16, 2008)