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Shanise Walker* (shanise1@iastate.edu), Iowa State University. *Injective choosability of subcubic planar graphs with girth 6*

An injective coloring of a graph G is an assignment of colors to the vertices of G so that any two vertices with a common neighbor have distinct colors. A graph G is injectively k -choosable if it has an injective coloring where the color of each vertex v of G can be chosen from any list $L(v)$ of size k . Injective colorings have applications in the theory of error-correcting codes and are closely related to other notions of colorability. We show that a subcubic planar graph with girth at least 6 is injectively 5-choosable, which improves several known bounds on the injective chromatic number of planar graphs.

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