

Entire labelling vertex colourings of plane graphs

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Given an integer valued labelling of all elements of a 2-connected plane graph G with vertex set V , let $c(v)$ denote the sum of the weight of $v \in V$ and of the weights of all edges and all faces incident with v . This vertex coloring of G is *proper* provided that $c(u) \neq c(v)$ for any two adjacent vertices u and v of G . We show that for every 2-connected plane graph there is such a proper vertex coloring with weights in $\{1, 2, 3\}$. In a special case, the value 3 is improved to 2.

References

- [1] M. Bača, S. Jendrol', M. Miller, J. Ryan, *On irregular total labellings*, Discrete Math. 307 (2007) 1378-1388.
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