Chromatic equivalence classes of certain generalized polygon trees

ABSTRACT

Let $P(G)$ denote the chromatic polynomial of a graph $G$. Two graphs $G$ and $H$ are chromatically equivalent, written $G \sim H$, if $P(G) = P(H)$. Let $g$ denote the family of all generalized polygon trees with three interior regions. Xu (1994) showed that $g$ is a union of chromatic equivalence classes under the equivalence relation '$\sim$'. In this paper, we determine infinitely many chromatic equivalence classes in $g$ under '$\sim$'. As a byproduct, we obtain a family of chromatically unique graphs established by Peng (1995).

Keyword: Chromatic equivalence; Generalized polygon trees