Problem Set 8

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1 Problem 1

Claim: Let $G = (V, E)$ be any undirected graph, and let $f : V \rightarrow \{1, 2, ..., k\}$ be a k-colouring of G, where $k = \chi(G)$. The binary relation $\equiv_f$ on V defined by

$$u \equiv_f v \text{ if and only if } f(u) = f(v)$$

2 Problem 2

Claim:

3 Problem 3

Claim: