Graph Theory; Third Set of assignment problems

Wednesday, 12 February, 2020

Sane

Assume that we are dealing with simple graphs.

1. (4 marks) Let G be a connected graph and let T and T' be two distinct spanning trees of G. Prove the following¿
   (a) Let $e \in T - T'$. Then show that $\exists e' \in T' - T$ such that $T - e + e'$ is a spanning tree.
   (b) Let $e \in T - T'$. Then show that $\exists e' \in T' - T$ such that $T' + e - e'$ is a spanning tree.
2. (4 marks) Let $G = K_{n_1,n_2}$ denote the complete bipartite graph with the first part having n_1 vertices and the second having n_2 vertices. Find $\tau(G)$, the number of spanning trees of G.