Problem Set 19

Due: Thursday, April 30th

Instructions: Answer each of the following questions and provide a justification for your answer.

1. Suppose G is a connected graph with n vertices. Prove that if G is connected and removing any edge disconnects G then there exists a unique path between any two vertices in G.

2. Suppose that G is a connected graph and and edge e of G is contained in every spanning tree of G. Prove that removing e makes G disconnected.

3. Prove that every tree with more than one vertex has at least two vertices of degree 1.

4. Pat yourself on the back. You did it.