Math 36500: Combinatorics: Practice Final 3

Recall that $\Delta(G)$ denotes the maximal degree of a graph G.

(a) Suppose $n \geq 1$. What is the fewest number of vertices a tree with $\Delta(G) = n$ can have? What does the graph have to look like? Explain why.

(b) Suppose $n \geq 2$. Prove that if T is a tree with $\Delta(T) = n$, then T has at least n leaves.