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Kenneth Barrese* (k.barrese@bucknell.edu). *The Roots of Rook Polynomials and Connected Graphs.*

The rook polynomial, as defined and factored by Goldman, Joichi, and White, allows for easy classification of the rook equivalence classes of Ferrers boards. For a given rook equivalence class, we define a graph where the vertices are identified with individual Ferrers boards in the class. We then use the multiset of roots of the rook polynomial to determine if the graph in question is connected, show that every complete graph, K_n , is a rook equivalence graph for some equivalence class of Ferrers boards, and, time permitting, show that no complete bipartite graph other than $K_{1,1}$ will occur as a rook equivalence graph. (Received September 05, 2019)