Full Name: _____

EEE 5502 (Fall 2022) – Practice **Filter Properties, 2022**

Question #1: Consider an impulse response $h[n]$ for an FIR system.

(a) Let the coefficients of $h[n]$ be **even** symmetric around some value of n (i.e., it does not have to be symmetric around $n = 0$). Show that this system has a linear phase.

(b) Let the coefficients of $h[n]$ be **odd** symmetric around some value of n (i.e., it does not have to be symmetric around $n = 0$). Show that this system has a linear phase. (Note: you can just explain how your previous proof changes)