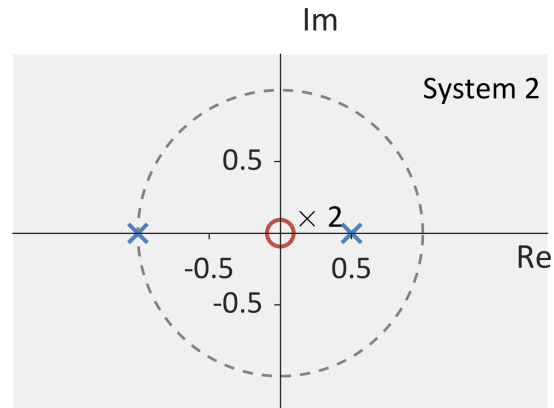
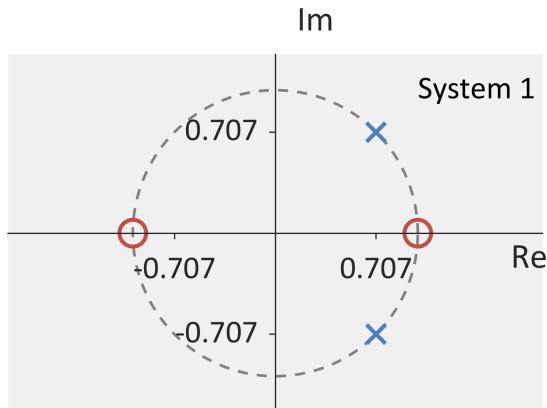


Question #1: Consider the systems given by the following pole-zero plots.



- (a) Draw a block diagram of the IIR cascade of a FIR filter and poles-only IIR filter for System 1 (Note: this is the same as Direct Form I). Design the implementation so that complex conjugate pairs are together. **Ensure that you use real values on the connections in the block diagram.**
- (b) Draw a block diagram of the IIR direct form II implementation for System 1. Design the implementation so that complex conjugate pairs are together. **Ensure that you use real values on the connections in the block diagram.**
- (c) Draw a block diagram of the IIR parallel form implementation for System 2. **You may use complex values for the connections in the block diagram.**