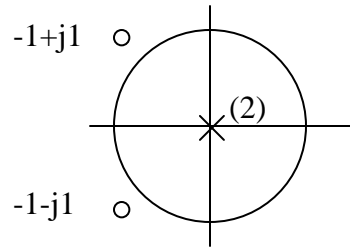


(1) Determine a simple difference equation that has a system function described by the following pole-zero diagram.



(2) A system is described by the difference equation:

$$y[n] = x[n] + x[n-1] + 0.1y[n-1]$$

(a) Find the first few terms of the unit sample response of this system, assuming initial rest.

(b) Find the first few terms of the unit step response of this system, again assuming initial rest.