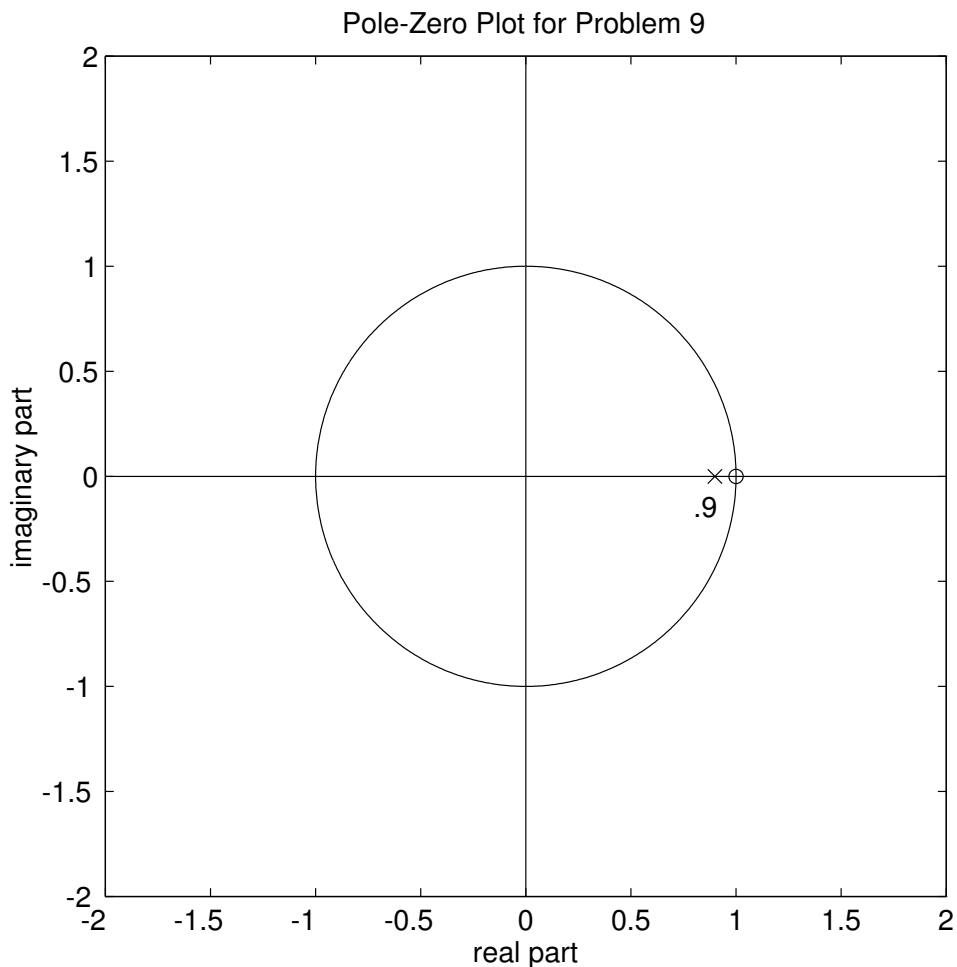


PROBLEM:

Consider the following pole-zero plot:



(a) In the above figure, draw the vectors representing the complex numbers $z - 1$ and $z - 0.9$ for $z = e^{j\pi/4}$.

(b) Determine the value of the frequency response $H(e^{j\hat{\omega}})$ at $\hat{\omega} = \pi$.

(c) Sketch the magnitude of the frequency response, $|H(e^{j\hat{\omega}})|$, as a function of $\hat{\omega}$ for $-\pi < \hat{\omega} < \pi$.