Chapter 9, Problem 92.

A transmission line has a series impedance of $\mathbf{Z} = 100\angle 75^\circ\ \Omega$ and a final shunt admittance of $\mathbf{Y} = 450\angle 48^\circ\ \mu S$. Find: (a) the characteristic impedance $\mathbf{Z_o} = (\mathbf{Z}/\mathbf{Y})^{1/2}$ and (b) the propagation constant $\gamma = (\mathbf{Z}/\mathbf{Y})^{1/2}$.