Special Problem 2.3-6

The voltages along the transmission lines shown below have the form:

\[ V_1(z_1) = 5e^{-j\beta z_1} + Ae^{j\beta z_1} \]

\[ V_2(z_2) = Be^{j\beta z_2} \]

Were A and B are some unknown complex constants.

\[ Z_0 = 50\Omega \quad V_1(z_1) \quad 25\Omega \quad V_2(z_2) \quad Z_0 = 50\Omega \]

\[ z_1 = 0 \quad z_2 = 0 \]

Carefully apply the boundary conditions at \( z_1 = 0 \) and \( z_2 = 0 \), and determine the values of complex constants A and B.