Special Problem 4.3-6

The **voltage** along the transmission lines below have the form:

$$V_1(z_1) = 4\,e^{-j\beta z_1} + A\,e^{+j\beta z_1}$$

$$V_2(z_2) = B\,e^{+j\beta z_2}$$

The two-port device has an **impedance matrix**:

$$\mathcal{Z} = \begin{bmatrix} 2Z_0 & Z_0 \\ Z_0 & 2Z_0 \end{bmatrix}$$

1. **First**, determine the values ***A*** and ***B***.

2. **Then**, determine the **scattering** parameters S_{11} and S_{21} for the two-port device (make sure you **justify** you approach).