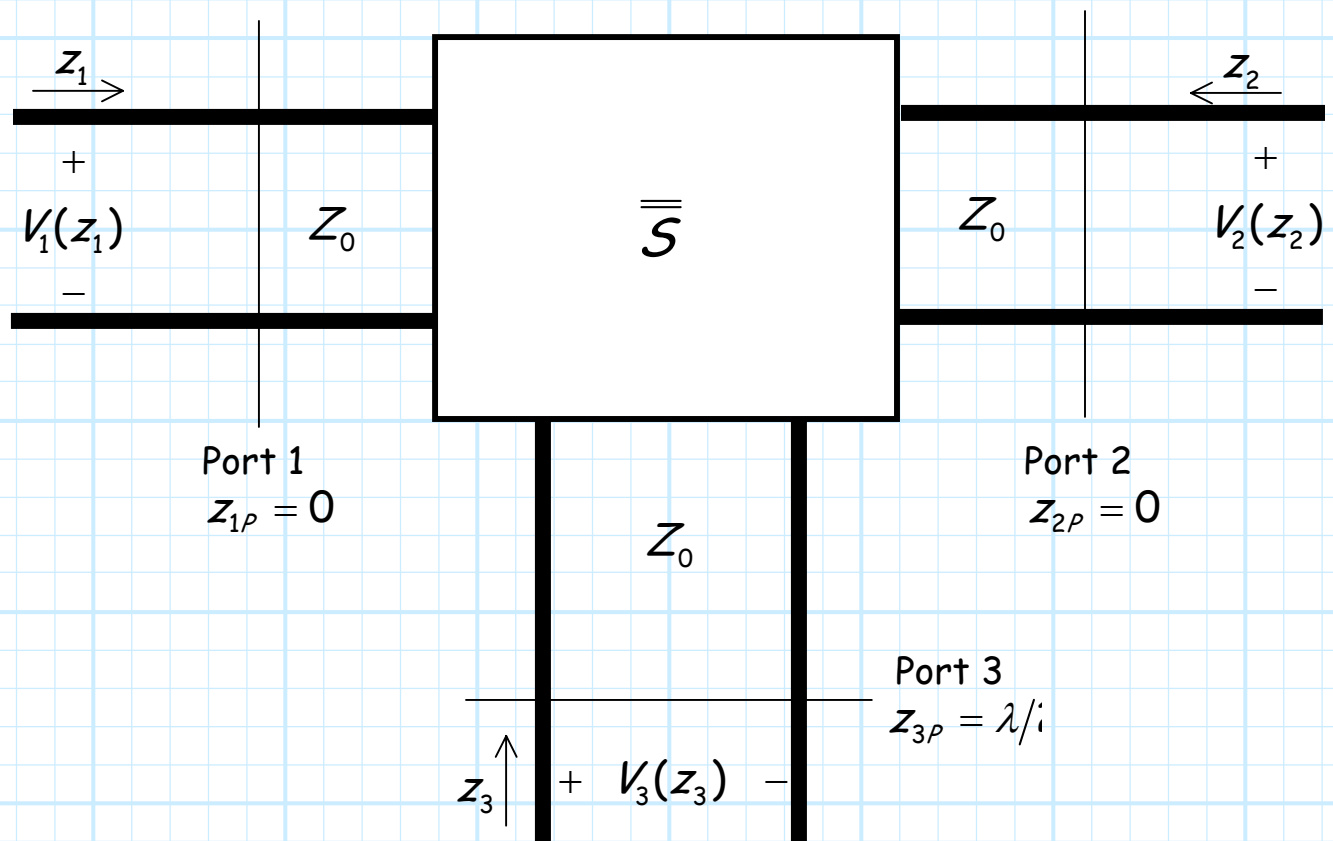**Special Problem 4.3-2**

The **voltage** along each of the **three** transmission lines below is:

$$V_1(z_1) = 2\, e^{-j\beta z_1} - e^{j\beta z_1}$$

$$V_2(z_2) = j0.5\, e^{j\beta z_2}$$

$$V_3(z_3) = 0.25\, e^{j\beta z_3}$$

Determine scattering parameters S_{11}, S_{21}, and S_{31}.

Note the location of port 3 (i.e., $z_{3P} = \lambda/2$)!