Special Problem 2.1-3

A certain transmission line has $\beta = \pi/2$ (radians/m).

We know that the reflection coefficient function at location z=1 is:

$$\Gamma(z=1) = -0.5$$

and the line impedance at location z = 0 is:

$$Z(z=0) = 120\ \Omega$$

and the total voltage at location z=-1 is:

$$V(z=-1) = j4 \quad V$$

Determine the **function** $I(z)$ that describes the **current** along this transmission line.