

Special Problem 2.4-3

A lossless transmission line of length ℓ is terminated with a **normalized load impedance** of:

$$z'_L = 0.4 + j .$$

The normalized **input impedance** of this transmission line is:

$$z'_{in} = r_{in} - j 2.0$$

where r_{in} is some unknown value.

Use a **Smith Chart** to determine the **two possible lengths** of this transmission line, expressed in wavelengths.