**Special Problem 2.4-2**

A lossless tranmission line of length of **length** $\ell$ is terminated with a **normalized load impedance** of:

$$z_L' = 2.0 + j\,x_L \ .$$

All that is known about **load reactance** $x_L$ is that it is **positive** ($x_L > 0$).

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

$$z_{in}' = 0.2$$

Use a **Smith Chart** to determine the **length** of this transmission line in wavelengths.