HW #4

1. Problem 2.47 in 7/E and 6/E, i.e. 2.35 in 5/E and Answer Sheet

2. Problem 2.49 in 7/E and 6/E, i.e. 2.36 in 5/E and Answer Sheet

3. Problem 2.52 in 7/E and 6/E, i.e. 2.37 in 5/E and Answer Sheet

   2.37+ On a lossless transmission line terminated in a load $Z_L = 100 \, \Omega$, the standing-wave ratio was measured to be 2.5. Use the Smith chart to find the two possible values of $Z_0$.

4. Problem 2.55 in 7/E and 6/E, i.e. 2.39 in 5/E and Answer Sheet

   2.39+ A lossless 50-Ω transmission line is terminated in a short circuit. Use the Smith chart to find the following:

   (a) The input impedance at a distance 2.3λ from the load.

   (b) The distance from the load at which the input admittance is $Y_{in} = -j0.04$ S.

5. Problem 2.58(a) in 7/E and 6/E, i.e. 2.41(a) in 5/E and Answer Sheet

   2.41+ A lossless 100-Ω transmission line 3λ/8 in length is terminated in an unknown impedance. If the input impedance is $Z_{in} = -j2.5 \, \Omega$,

   (a) Use the Smith chart to find $Z_L$. 