EE 301
Spring 2003
A. Inan

Sample Problem for EE 301-Midterm # 2-Three Cascaded Transmission Lines

Three cascaded transmission lines. In the following transmission line circuit shown, find the following using equations as well as the Smith chart:

- Find the two input impedances at frequency f_1 (which corresponds to wavelength λ_1)
- Find the standing wave ratio on each line (i.e., S_3, S_2, and S_1) at frequency f_1
- Repeat the first two parts at frequency $f_2=2f_1$

Answers: 180 Ω, 80 Ω, 3, 1.5, 1, 30–*j*40 Ω, 30–*j*40 Ω, 3, ~ 4.47(?), ~3.42(?). (I hope my answers are correct, I did my calculations pretty fast! ☺)