Stuff to Geek - WK 9

Understand the basic idea behind stub matching:
- Find a point back from the load at which the real part of $Z_{in}$ is equal to $Z_0$.
- At that point, determine the imaginary (reactive) portion of $Z_{in}$.
- Cancel the reactive portion with a lumped or distributed matching element.

There are multiple places where the match can be accomplished, but typically the closer to the load, the better.

The Smith chart rules:
- $R$: at any point on a line
- Normalize load impedance
- Distance from load or generator

The circumference of the Smith chart plots out pure resistance.
The center horizontal line plots out pure resistance.
Impedance chart: inductance top, capacitance bottom.
Admittance chart: reverse all the above.

Ohm $\equiv$ Siemen $\equiv$ ohm$^{-1}$

Admittance $= \text{Conductance} \pm \text{Susceptance}$

$Y = G \pm jB$

Stub matching can be accomplished with:
- Series or parallel stubs
- Shorted or open stub elements

Use admittance chart for parallel stub matching since admittances add in parallel (shunt)