***E117-Lab3-OSCILOSCOPE Calculate R to get 45 degree Phase Shift***

*Your Lab Report Writeup should include, but not be limited to, the following:*

* Derive Vo(jw), i.e., Vc(jw), as a function of R,C,f, etc. Use Voltage Division, similar to what was demonstrated by the instructor in class.
* Show Vo/Vi Magnitude and Phase Angle.
* Use Phase Angle to obtain R for the 45 Degree Phase Shift.
* Tabulate the Freq, Vi, Vo, Vo/Vi, Angle of Vo/Vi, and in the tabulation show the 0.707 point, or the -3DB Loss.
* Show the frequency at which the 0.707 occurs?
* Graph the Vo/Vi magnitude. Graph the phase angle of Vo/Vi, versus Frequency.
* Show screen capture of the Scope for the Vi, Vo, various phase angles, etc.
* Show photos of your lab setup.
* Discuss LPF, the Low Pass Filter, what it does, how it works.
* How is the circuit diagram of a HPF, High pass Filter, different from LPF (Where is the Vout for either circuit)?
* Address any other concept or questions outlined in the lab handout.