H.W. #23 EE 220 Fall 2017

Show your work for credit!

1. Determine, using phasor analysis, the current that flows in the circuits from HW #21, problem 4, and plot along with Vin in the time-domain. Use LTspice to verify your hand calculations and plots. (4 points)
2. Determine and plot, using AC frequency analysis, the magnitude and phase responses of Vout/Vin for the circuits in HW #21, problem 4 (8 equations and correspondingly 8 plots). Verify with LTspice. (8 points)
3. Determine, using phasor analysis, Vout in the following integrator circuit. Note that the 100k resistor is used to ensure the DC gain of the integrator isn't infinite. The 100k can be neglected (remove from the circuit) in the phasor (or AC) analysis because it's impedance is much larger than the impedance of the capacitor at 1 kHz. Sketch Vout and Vin on the same plot in the time-domain. Verify your hand calculations and plots with LTspice. (3 points)