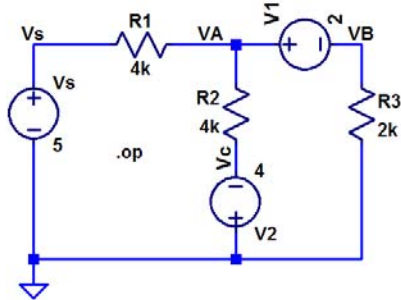


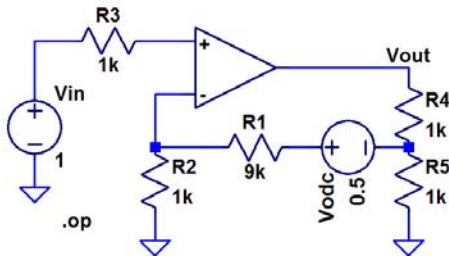
H.W. #19 EE 220 Summer 2014

For the following problems show your hand calculations and verify your solutions using LTspice.

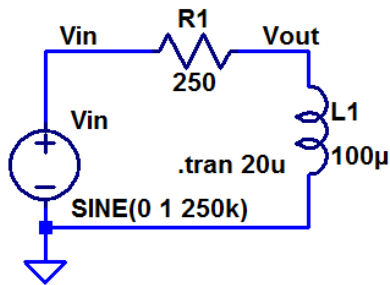
1. Find V_A and V_B in the following circuit. (2 points)



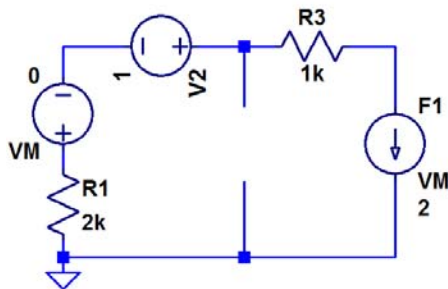
2. Find V_{out} in the following circuit using an ideal op-amp. (2 points)



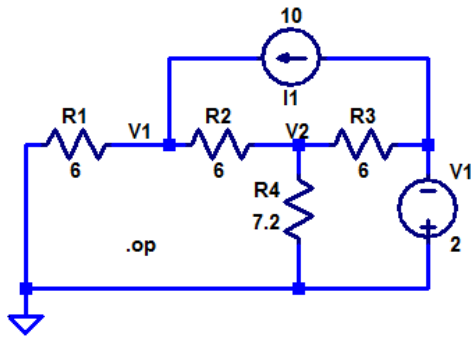
3. Find V_{out} in the following circuit and plot it, and the input signal, against time. (2 points)



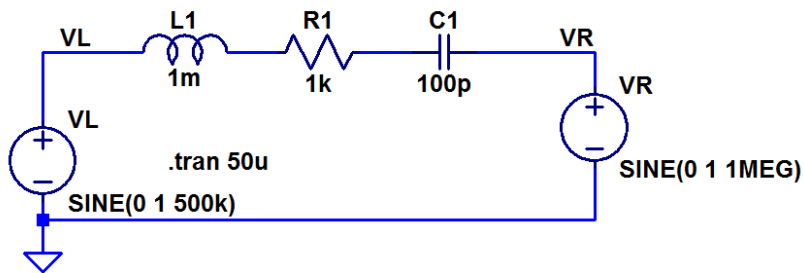
4. Find the Thevenin and Norton equivalents of the following circuit. As always show your work for credit. (2 points)



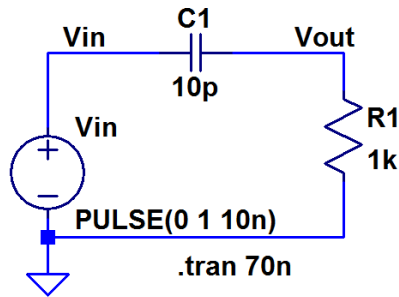
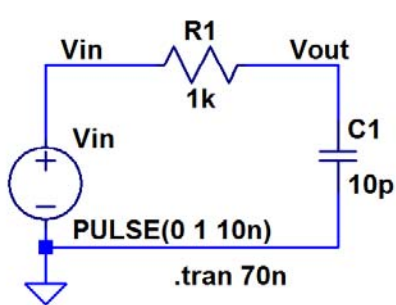
5. Find V_2 in the following circuit. (3 points)



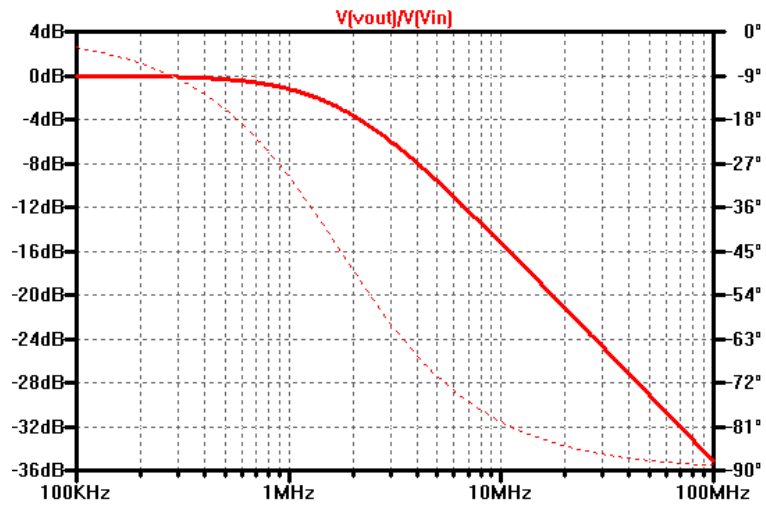
6. Find, and sketch in the time-domain relative to V_L , the current that flows in the following circuit. (3 points)



7. Write equations for V_{out} in each of the following circuits and then sketch the output voltage and current in each circuit against time. (2 points)



8. Suppose a circuit has the following frequency response. Sketch V_{in} and V_{out} in the time domain when they are sinusoids at a frequency of 4MHz. (2 points)



9. Using superposition find V_x . (2 points)

