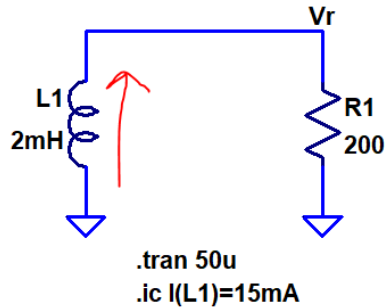
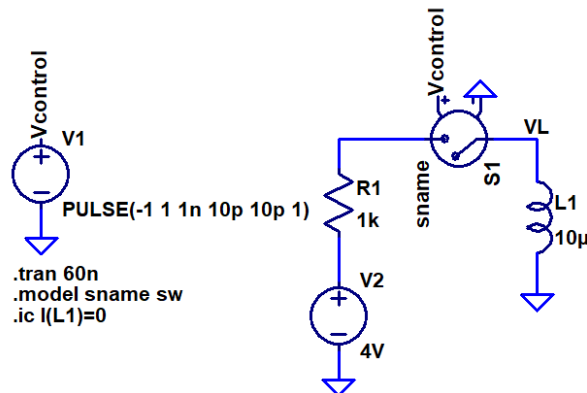


Show your work for credit!

1. Hand calculate V_r in the following circuit. Compare your hand calculations to simulation results. Assume the initial current flow is in the direction indicated. Verify your hand calculations with LTspice. (4 points)

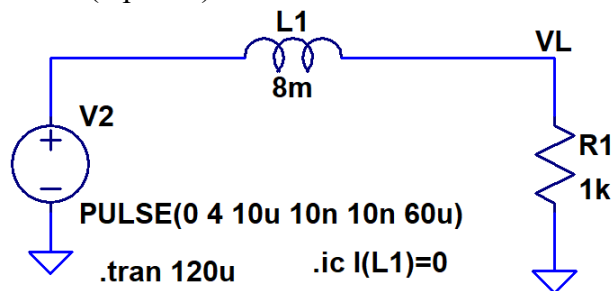


2. Write the equation describing the voltage across, and current through, the inductor in the following circuit. Use LTspice to verify your answer. (4 points)



Note that the initial current through the inductor is zero.

3. Write the (2) equations describing the voltage across, and the current through, the inductor in the following circuit for both the rising and falling edges of the input pulse. Again, use LTspice to verify your answer. (4 points)



4. Re-work problem 2 on HW #15 if the capacitor value is decreased to 10 pF. How long would one have to wait until the capacitor is charged? Why? (2 points)