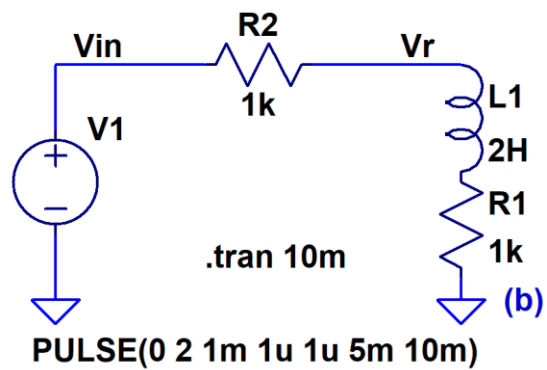
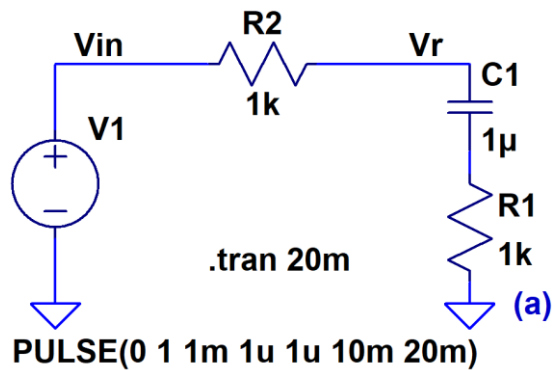


Show your work for credit!

- Design a circuit that creates a triangle waveform that swings between -1.5 V and $+1.5\text{ V}$ at 5 kHz . Assume the input to the circuit is a square-wave that oscillates at 10 kHz between 0 and $+1\text{ V}$. Show your hand calculations for credit. Verify your design using LTSpice. (4 points)
- Write equations for V_r , and sketch along with V_{in} , in the following circuits. Verify your answers with LTSpice. (2 points)



- Determine V_{out} for each of the following circuits. Sketch V_{out} and V_{in} on the same plot. Show your hand calculations for credit. Verify your answers using LTSpice. (8 points)

