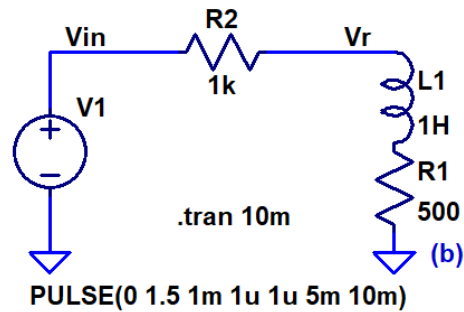
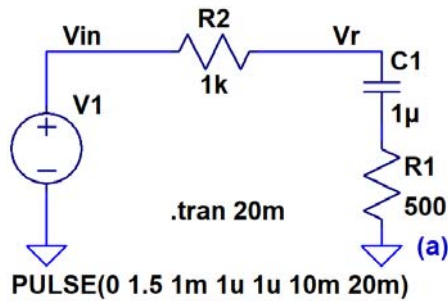


Show your work for credit!

- Design a circuit that creates a triangle waveform that swings between -2 and $+2$ V at 1 kHz. Assume the input to the circuit is a square-wave that oscillates at 1 kHz between 0 and $+1$ 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)

