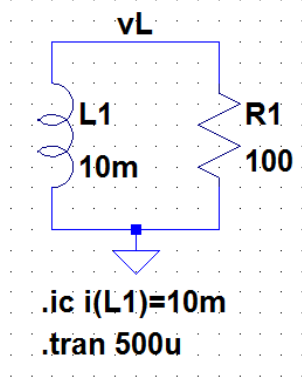


HW#3 – ECE 5/472 Power Electronics

Boise State University, due Friday, September 3 2010

1. Review of LR circuits. Determine (sketch and equations for the current in the circuit and VL), using circuit analysis in the time domain (show the differential equations or solution via Laplace transforms don't just write the result) the response of the following circuit. Note that the initial current (.ic is an initial condition) in the inductor is 10 mA (you can define the direction of this current yourself). It's important to understand this circuit forwards and backwards since we'll use it often. Verify your answers using LTspice.



2. For the following circuit determine, and plot, the current in the inductor and the voltage across the inductor. Show your work (be very clear). Also plot the energy stored in the inductor against time. Verify all three plots using LTspice.

