

Frank Martino - Proof of Skills Analytical Calculations

Day 3

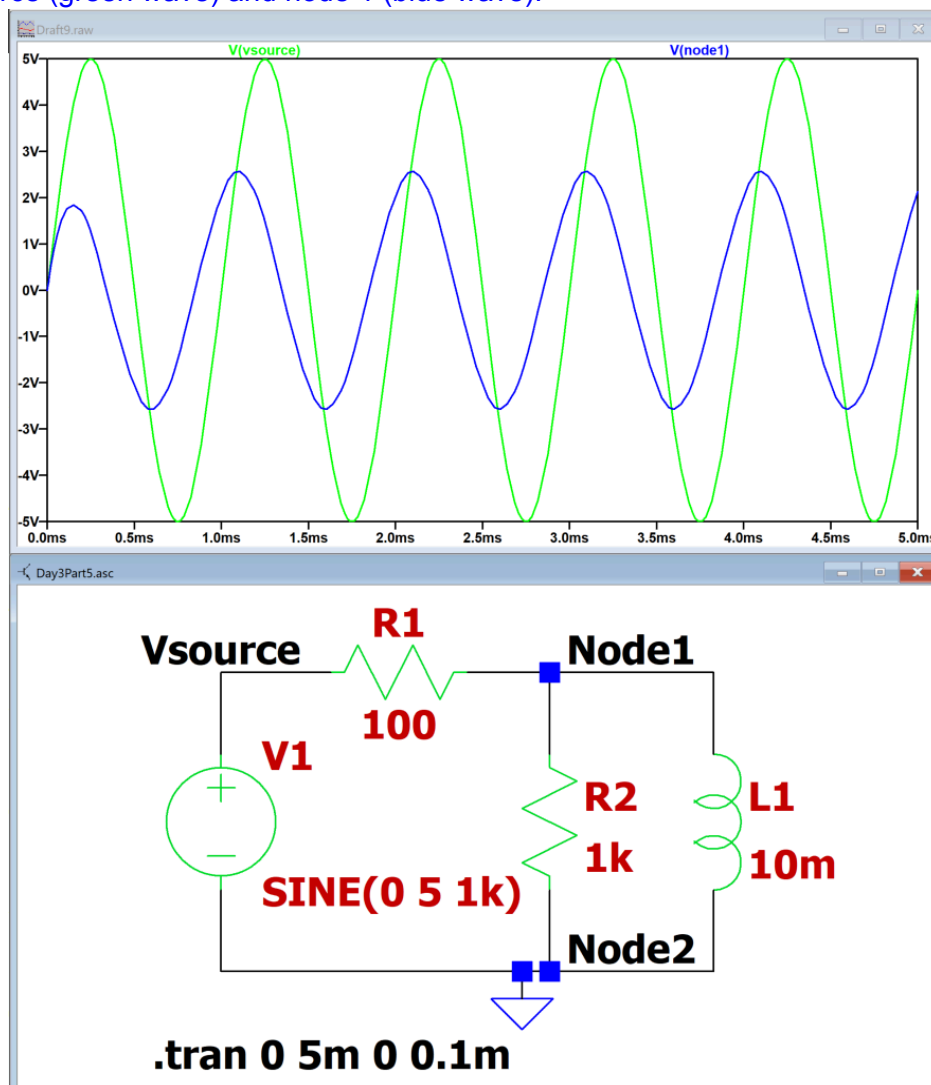
Q3 Analytical Calculations with personal calculator (TI-XX) and MATLAB or equivalent

Prove your skill set in using tools for analytical calculations.

Q3.5 Importing Simulation Data

I can import simulation data (from LTSpice or equivalent) to MATLAB and plot the function

I can prove my skills in importing data from a simulation program like LTSpice by creating a circuit then uploading the raw text file to Matlab which can then be converted into column vectors. To start I created a resistive circuit with an inductor that had a sinusoidal voltage source. The voltage source, v1, oscillated between -5 and 5 volts and was in series with R1 (100Ω). This was connected to a parallel combination of a resistor R2 (1kΩ) and an inductor (10m). The LTSpice schematic is shown below along with the graph where I am measuring the voltage source (green wave) and node 1 (blue wave).



I converted the output graph into a text file which Matlab then accepts and can convert to column vectors. These column vectors can be accessed by a Matlab program. After plotting the two waves and labeling the axis, title, and legend I found that the Matlab output was identical to the LTspice graph. (code and graph shown below)

