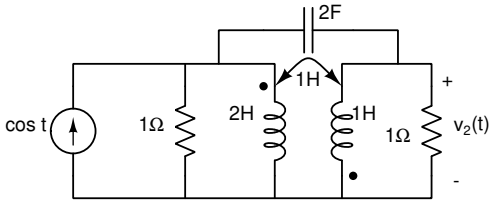
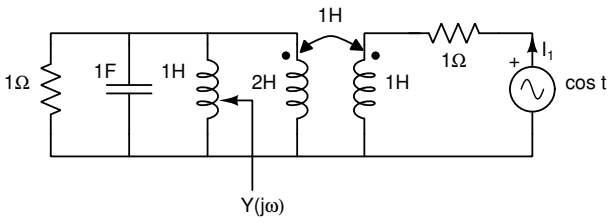
EC2015 Electric Circuits and Networks - Tutorial 8

October 11^{th}, 2019

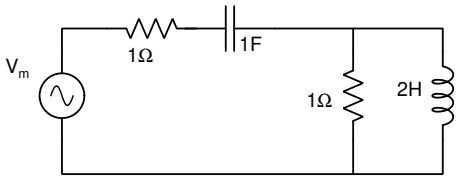
1. Write nodal equations and find v_2(t).



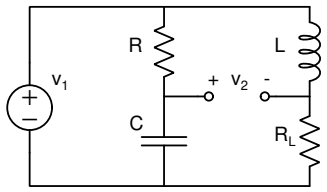
2. Find $Y(j\omega)$ and the admittance as seen by the voltage source.



3. Draw the phasor diagram showing all voltages and currents with respect to the input. Assume $\omega = 1$rad/s.



4. In the circuit below $R_L = R = \sqrt{L/C}$. Draw a complete phasor diagram showing all voltages and currents for the condition $|I_L| = |I_C|$. Assume this frequency is ω_1. If the frequency increases from ω_1 to ω_2, how will the phasor diagram change?



5. Use superposition and find the average power dissipated in the resistors. $\omega = 60$rad/s.