Class List:	THE UNIVERSITY OF BRITISH COLUMBIA Department of Electrical and Computer Engineering ELEC 251 - Circuit Analysis I					Mark (%)			
Eamily name	Final Examination	STUDENT NUMBER. abcdefa							h
ranny name:	(2.5 HOURS) DEC 8, 2010			-	~	5	-	3	

 [34 marks] For the circuit in Figure 1 below, find AND draw the Thevenin equivalent at the port defined by the terminals 'p' and 'q', identifying nodes 'p' and 'q' in your drawing of the equivalent circuit. <u>Utilize MNA</u> to solve the circuits that arise in your solution. All resistances are given in ohms..



- 2) [33 marks] In the circuit of Figure 2 below, all resistances are given in ohms. the switches (m) and (q) have been closed and the switch (n) has been open for a very long time. At t = 0, instantaneously, the switches (m) and (q) open, and the switch (n) closes. Determine.
 - (a) the initial value of the current in the inductor, at t = 0,
 - (b) the initial value of the time rate of change of the inductor current right after the switches move, at $t = 0^+$;
 - (c) The current in the inductor as a function of time or t > 0.



Given name:___

3) [33 marks] In the circuit in Figure 3 on the next page: (a) Assume there is no saturation and determine the output voltage and output power at each of the two op amps, v₀₁, p₀₁, v₀₂, p₀₂. (b) Determine if either or both op amps is/are saturated and recompute v₀₁, p₀₁, v₀₂, p₀₂.





(All resistances are given in ohms)