| Mansoura University	Electric Circuits (1)
Faculty of Engineering	1st Year Elec. Power Dept.
December 2010	Time Allowed : 3 Hours

Please attempt all questions.

(1-a) Use Nodal-voltage analysis method to determine the current passing through the 2 - Ω resistor.
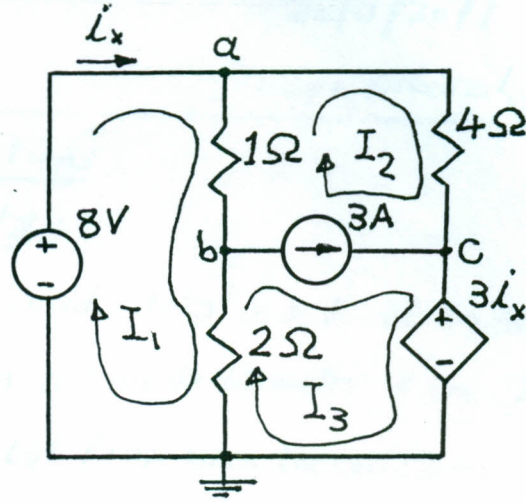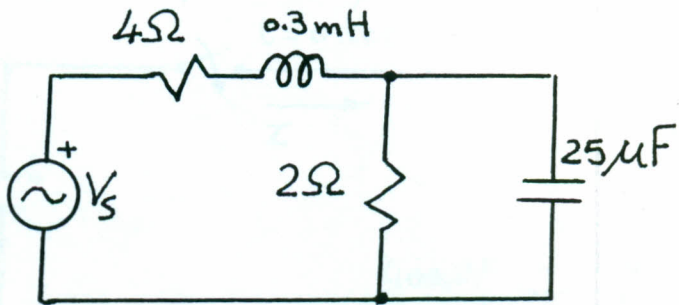
(1-b) Use Mesh-current analysis method to determine the voltage across the 3A-current source.

(2-a) Using the superposition theorem for the shown circuit, determine the value of current "i".
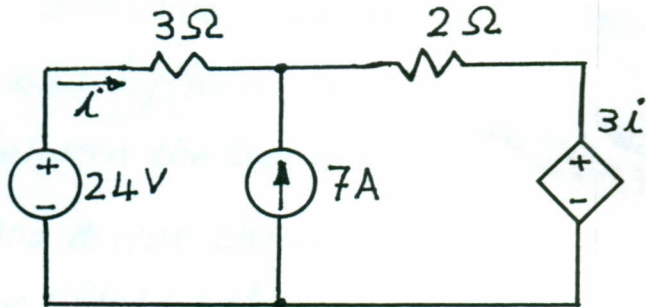
(2-b) Determine the power delivered by the source for the shown circuit, given that the source voltage is 20 V and $\omega = 10,000$ rad/sec.

(3) The shown 3-ph, delta-connected load is supplied from a 3-ph, 130 V-source;
Determine;
(a) The phase currents I_{AB} , I_{BC} , & I_{CA}.
(b) The line currents I_A , I_B , & I_C.
© The 3-ph consumed power.