Test #2 ECEN 2632 F2013 P.Munro | Name: _____

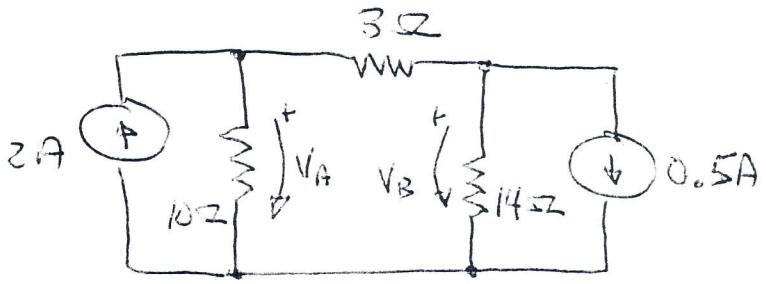
20 pts each.

(1) Solve these simultaneous equations for v_1 and v_2.

$$2 = 3v_1 - 4v_2$$

$$0 = -v_1 + 8v_2$$

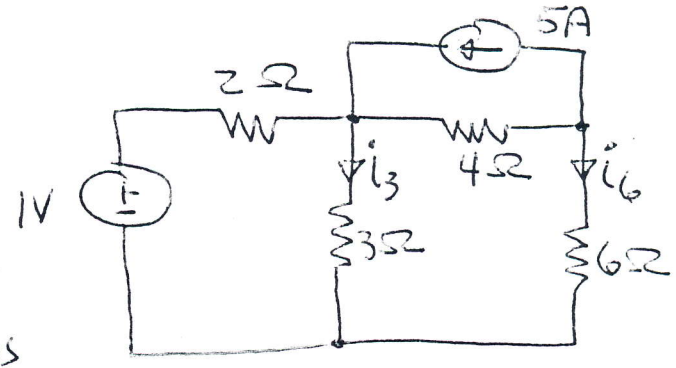
(2) Write the nodal method equations needed to find V_A and V_B. Put in ready to solve form but do not solve.



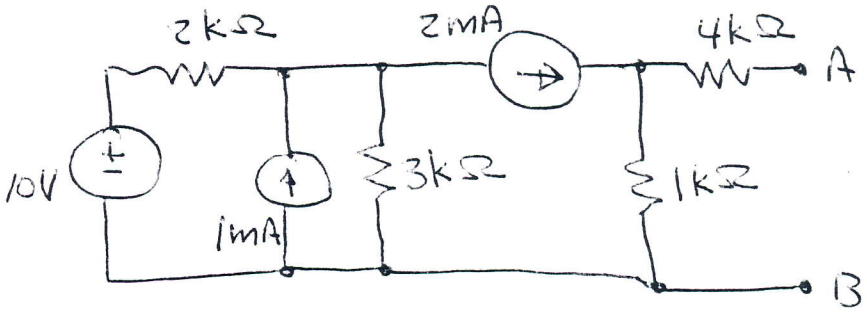
(3)

a) Write the mesh equations. Do not solve.

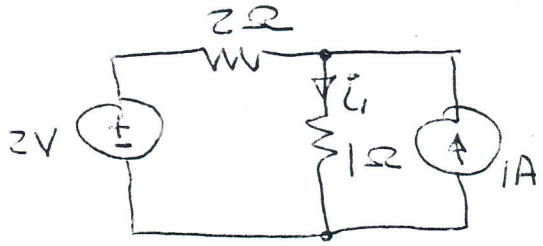
b) Write i_3 and i_6 in terms of your mesh currents.



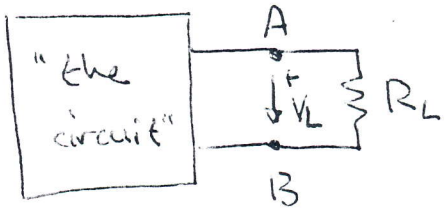
(4) Find and draw the Thevenin and the Norton circuits for A-B.



(5) Use superposition to find i_1.



(6) The circuit has $R_{Thev} = 10\,\Omega$. Also, when $R_L = \infty$, $V_L = 5\,V$.



a) Find R_L to make P_L a maximum.

b) Draw the Thevenin equivalent for the circuit.