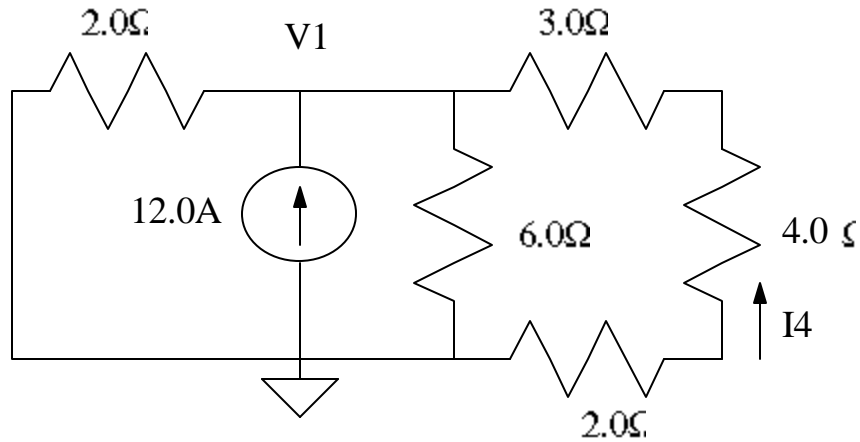
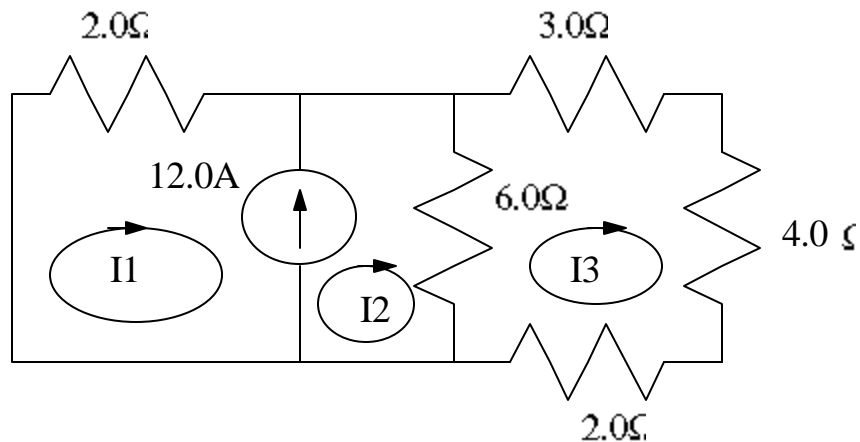


## PHY 3270 EXAM #1

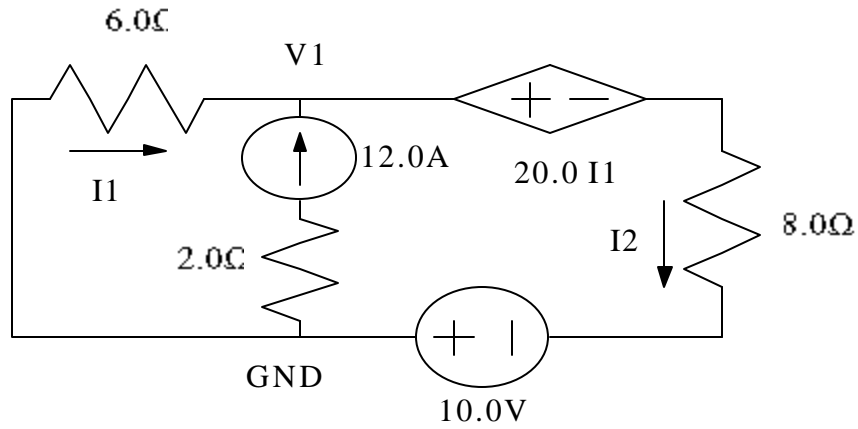
1. Use the current divider relationship to find the current labeled  $I_4$ .



2. For the same circuit shown above, use the Node-voltage technique to find the node voltage,  $V_1$ .
3. In the circuit below, write down the set of mesh and constraint equations needed to solve for  $I_1$ ,  $I_2$ ,  $I_3$ . But do not algebraically solve for them.



4. Write down the set of equations that would be required to solve for  $V_1$  using the node-voltage technique. Do not solve.



5. Write down the mesh equations that could be used to solve for the two clockwise mesh currents. Do not solve.