

112-1 ELECTRICAL ENGINEERING FUNDAMENTAL I

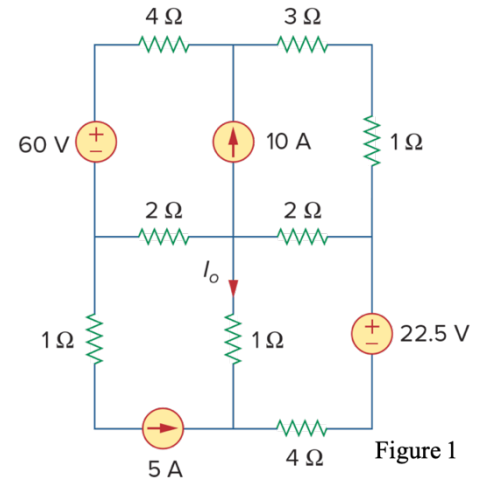
Name:

Quiz 3

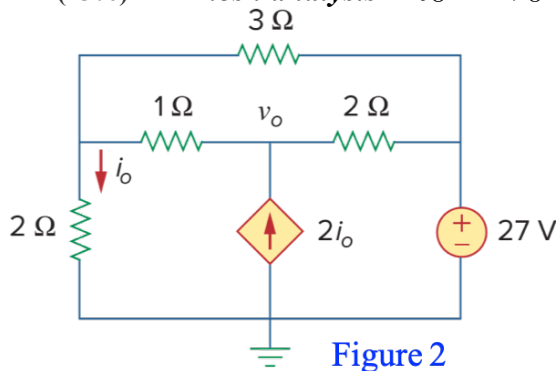
2023.10.24

Note: Show your mathematic works and make your calculation accuracy to at least the 4th digit behind the decimal point.

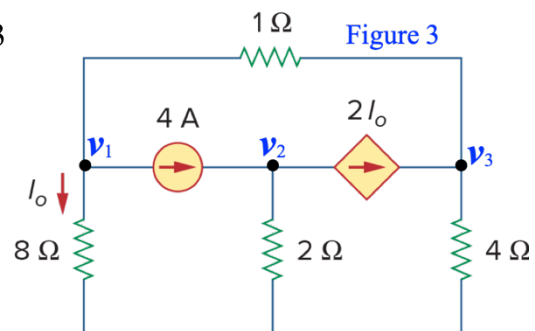
- (25%) Apply *mesh analysis* to the circuit in Fig. 1 and obtain all **mesh currents** and $\mathbf{I_o}$.



- (25%) Use *mesh analysis* to $\mathbf{i_o}$ and $\mathbf{v_o}$ in the circuit of Figure 2.



3. (25%) Find $\mathbf{I_o}$ and node voltage $\mathbf{v_1}$, $\mathbf{v_2}$, and $\mathbf{v_3}$ in the circuit of Fig. 3 using *nodal analysis*.



4. (25%) For the circuit in Fig. 4, find \mathbf{i} and node voltage $\mathbf{v_1}$, $\mathbf{v_2}$, and $\mathbf{v_3}$ using *nodal analysis*.

