Q 1.   For the circuit shown in Figure 1, compute the voltage V_o. Use nodal analysis.
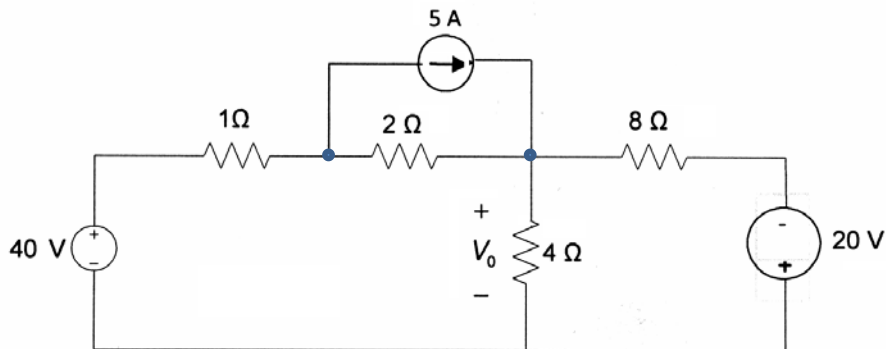

Figure 1

Q 2.   Use mesh analysis on the circuit shown in Figure 2 to find the power being supplied by the dependent voltage source.
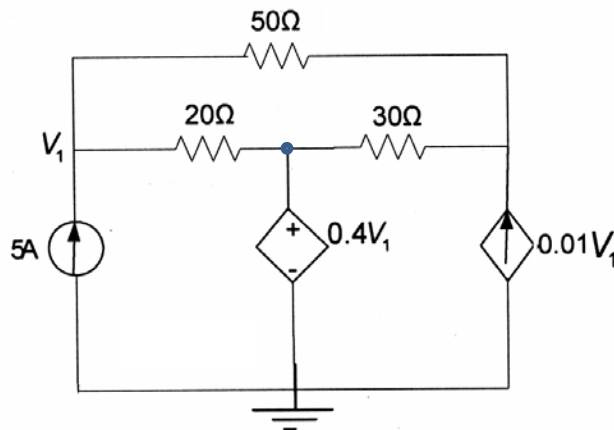

Figure 2

Q 3.   Figure 3a shows a circuit supplied by a practical voltage source V. The characteristic of the source (terminal voltage v_t vs output current i_o) is shown in Figure 3b. Calculate voltages v_2, v_3 and currents i_1, i_2, i_3, and i_4, whose directions are indicated in the figure arbitrarily.
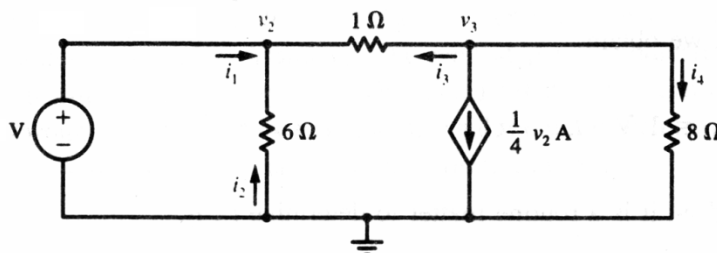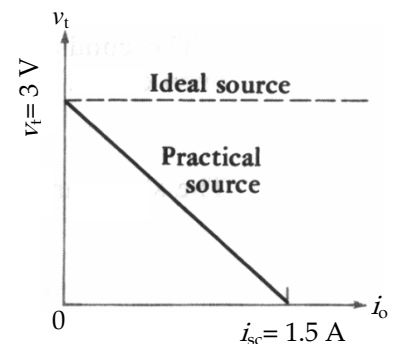

Figure 3a

Figure 3b