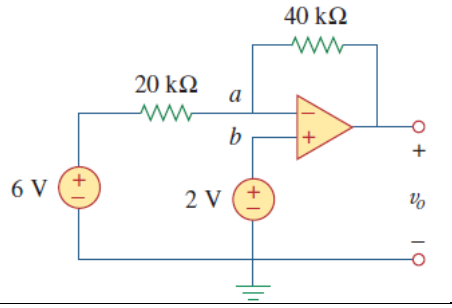
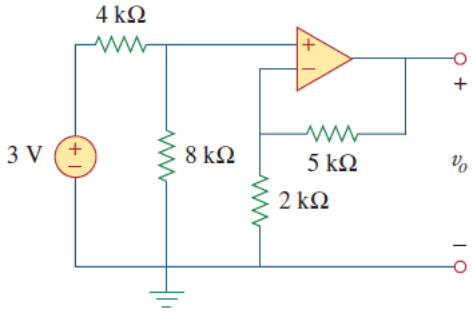
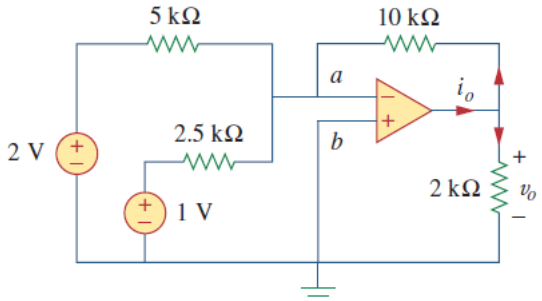
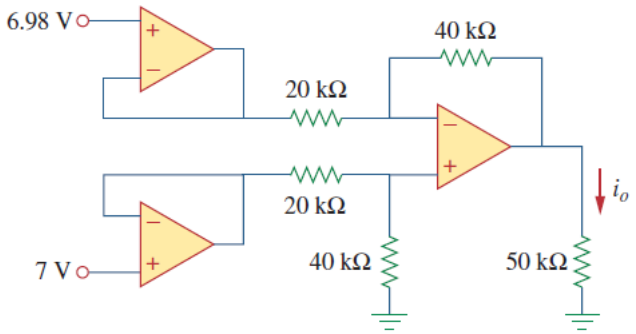
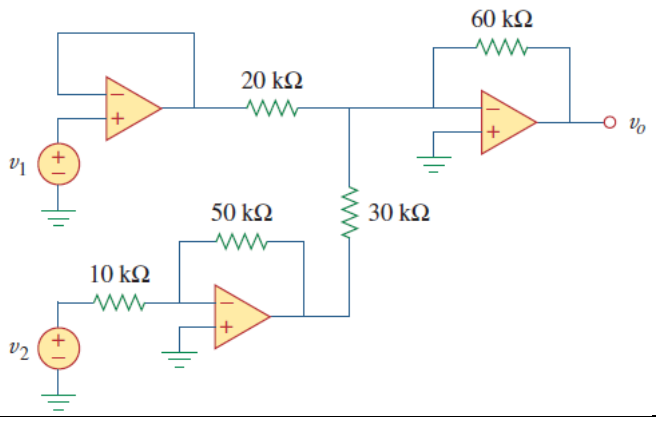
1.	Calculate the output voltage of an op-amp summing amplifier for the following sets of voltages and resistors. Use $R_f = 1\,\text{M}\Omega$ in all cases. a. $V_1 = +1\,\text{V}, V_2 = +2\,\text{V}, V_3 = +3\,\text{V}, R_1 = 500\,\text{k}\Omega, R_2 = 1\,\text{M}\Omega, R_3 = 1\,\text{M}\Omega.$ b. $V_1 = -2\,\text{V}, V_2 = +3\,\text{V}, V_3 = +1\,\text{V}, R_1 = 200\,\text{k}\Omega, R_2 = 500\,\text{k}\Omega, R_3 = 1\,\text{M}\Omega.$
2.	Determine v_o in the op amp circuit shown in given Fig. 
3.	Calculate v_o in the circuit of following Fig. 
4.	Calculate v_o and i_o in the op amp circuit in Fig. 
5.	Design an op amp circuit with inputs v_1 and v_2 such that $v_o = -5v_1 + 3v_2$.
6.	Obtain i_o in the instrumentation amplifier circuit of Fig. 
7.	If $v_1 = 7$ V and $v_2 = 3.1$ V, find v_o in the op amp circuit of Fig.


60 kΩ
20 kΩ
v_o
v_1
50 kΩ
30 kΩ
10 kΩ
v_2