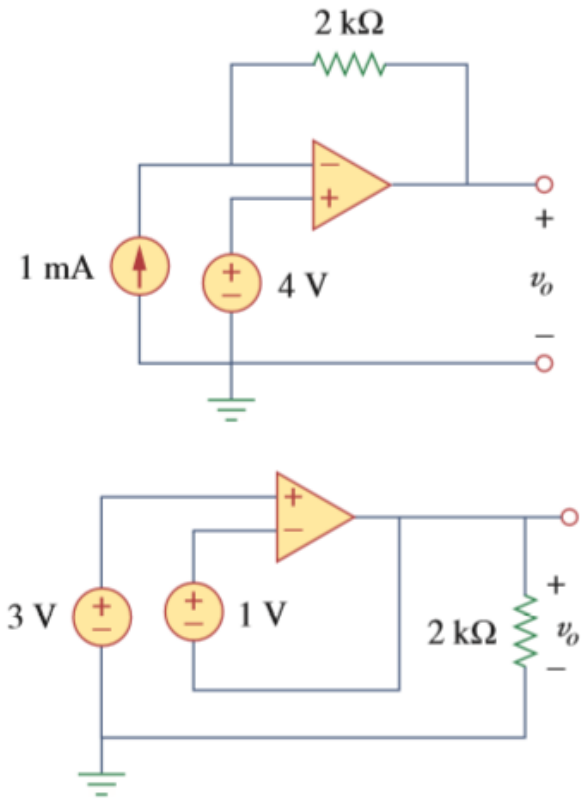
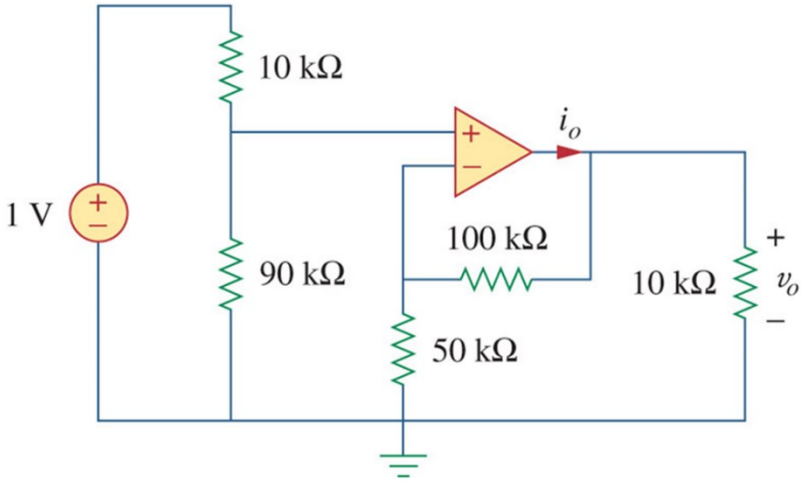
5.9 Determine v_o for each of the op amp circuits in Fig. 5.48.



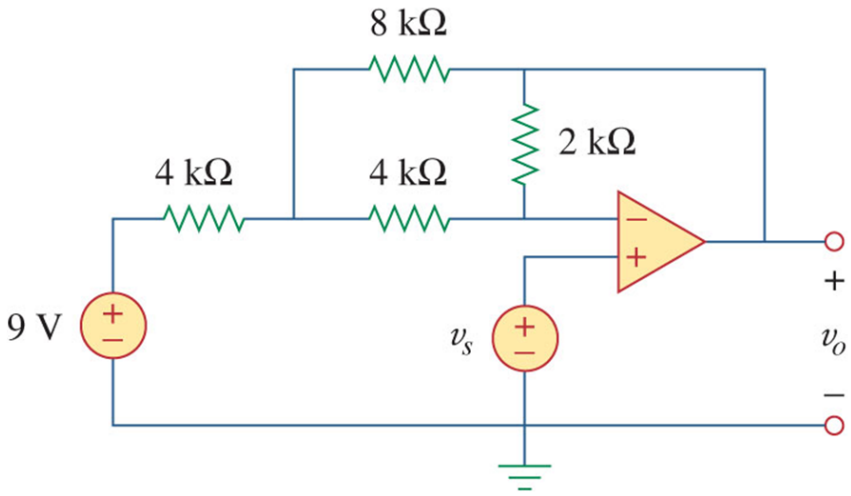
Problem 5.13 P201

Find v_o and i_o in the circuit of Fig. 5.52.



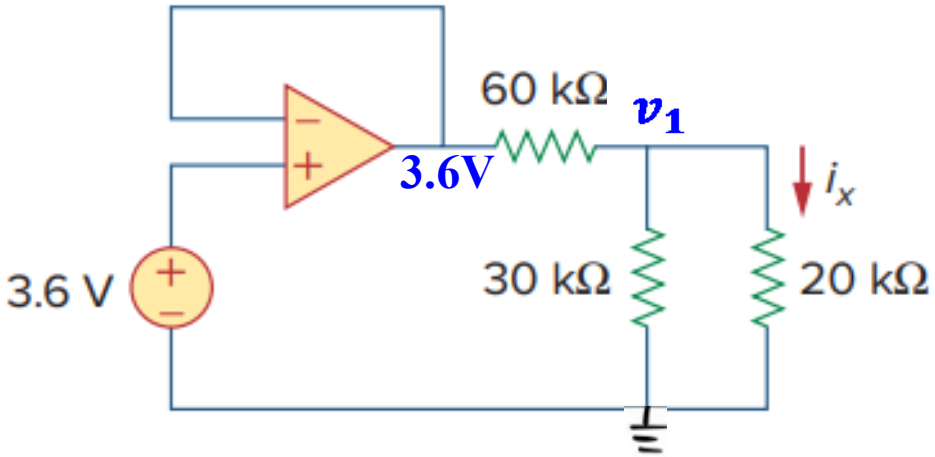
Problem 5.20 P202

In the circuit of Fig. 5.59, calculate v_o of $v_s = 2$ V.



Problem 5.30 P203

In the circuit shown in Fig. 5.68, find i_x and the power absorbed by the 20-kΩ resistor.



$$\frac{3.6 - v_1}{60} = \frac{v_1}{30} + \frac{v_1}{20}$$

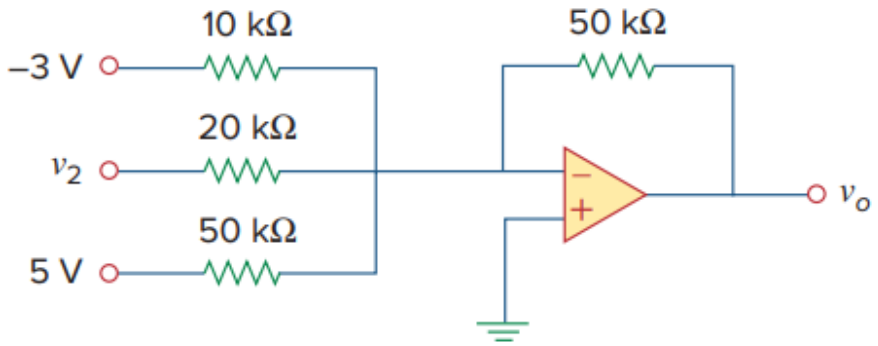
$$i_x = \frac{v_1}{20}$$

$$i_x = 30\text{uA}$$

$$p_{20\text{k}\Omega} = i_x^2 \times 20\text{k}\Omega$$
$$= 18\text{uW}$$

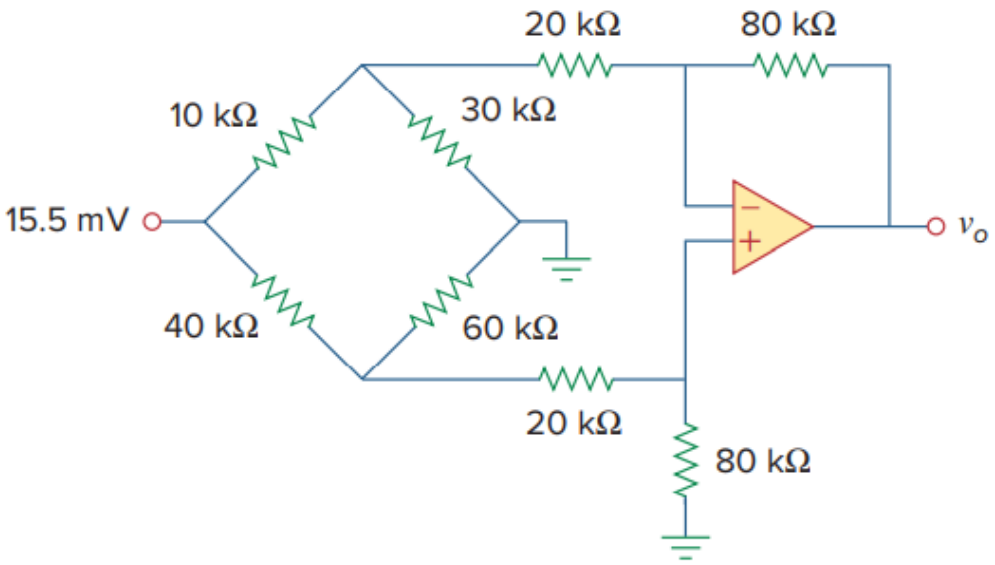
Problem 5.39 P204

For the op amp circuit in Fig. 5.76, determine the value of v_2 in order to make $v_o = -16.5$ V.



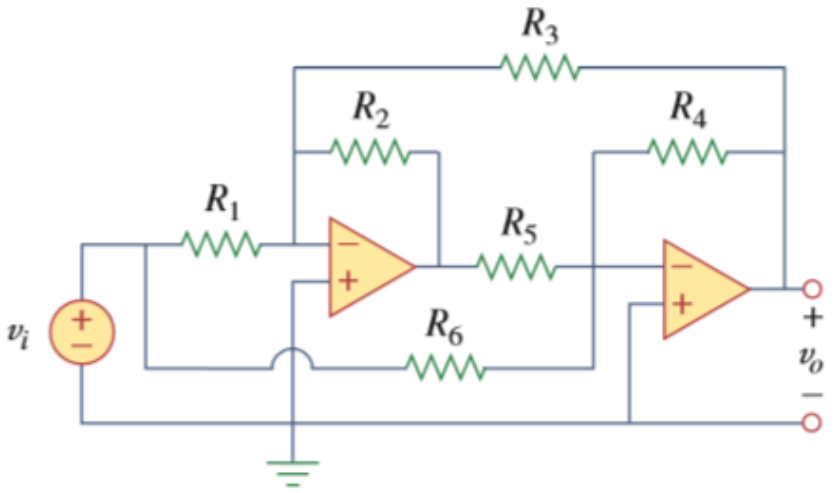
Problem 5.48 P205

The circuit in Fig. 5.80 is a differential amplifier driven by a bridge. Find v_o.



Problem 5.63 P207

5.63 Determine the gain v_o/v_i of the circuit in Fig. 5.90.



Problem 5.91 P213

A noninverting current amplifier is portrayed in Fig. 5.108. Calculate the gain i_o/i_s. Take $R_1 = 8\ \text{k}\Omega$ and $R_2 = 1\ \text{k}\Omega$.