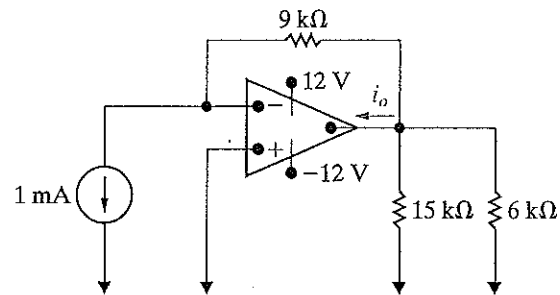


HOMEWORK 3

5.3 Find i_o in the circuit in Fig. P5.3 if the op amp is ideal.

PSPICE

Figure P5.3

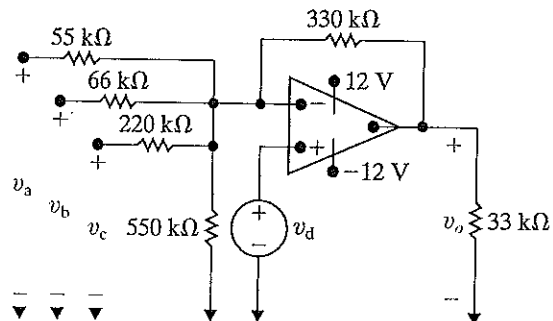


5.13 a) The op amp in Fig. P5.13 is ideal. Find v_o if $v_a = 16$ V, $v_b = 12$ V, $v_c = -6$ V, and $v_d = 10$ V.

PSPICE

b) Assume v_a , v_c , and v_d retain their values as given in (a). Specify the range of v_b such that the op amp operates within its linear region.

Figure P5.13

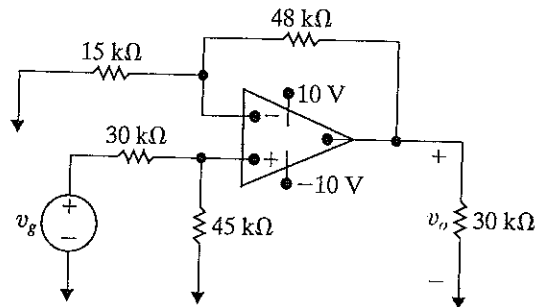


5.18 The op amp in the circuit shown in Fig. P5.18 is ideal.

PSPICE

- Calculate v_o when v_g equals 3 V.
- Specify the range of values of v_g so that the op amp operates in a linear mode.
- Assume that v_g equals 5 V and that the 48 k Ω resistor is replaced with a variable resistor. What value of the variable resistor will cause the op amp to saturate?

Figure P5.18



5.36 The op amps in the circuit in Fig. P5.36 are ideal.

PSPICE

- Find i_a .
- Find the value of the right source voltage for which $i_a = 0$.

Figure P5.36

