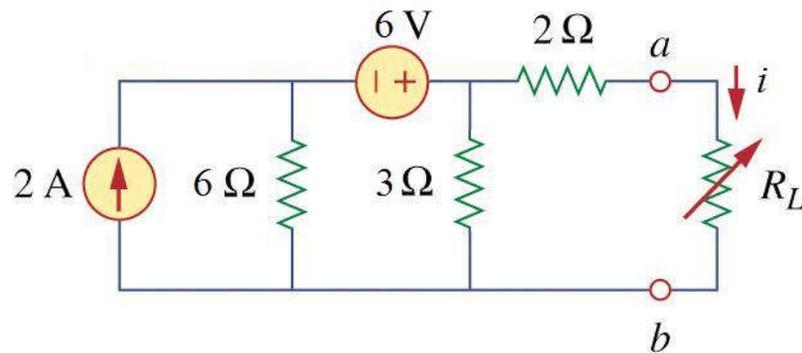


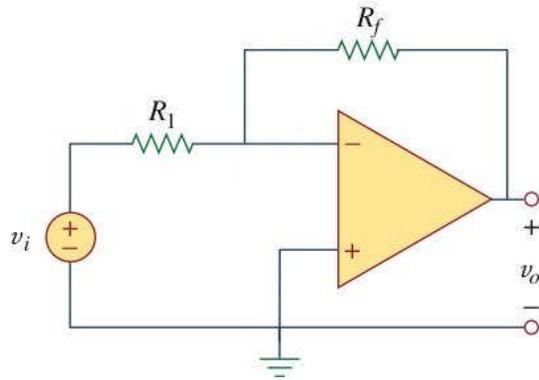
**Lesson 11:
Operational Amplifiers 3
Practice problems**

Example Problem 1

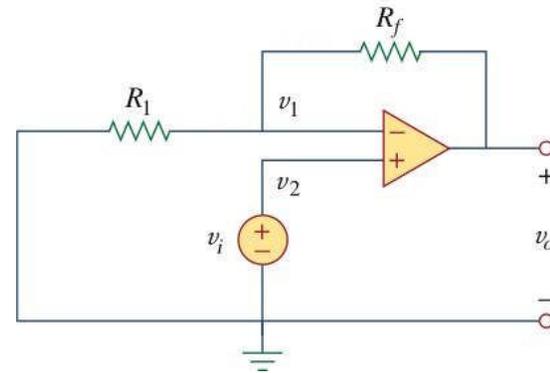
Determine the value(s) of R_L that would result in R_L dissipating 2 W.



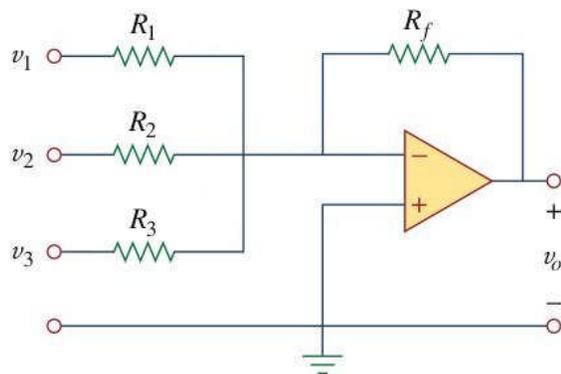
Basic op amp circuits



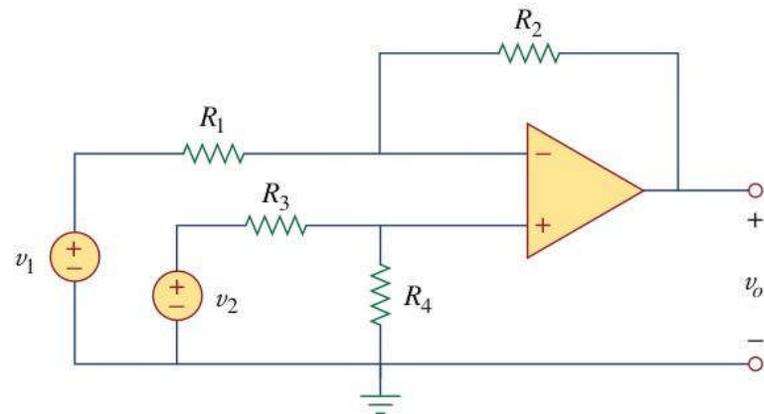
Inverting amplifier



Non-inverting amplifier



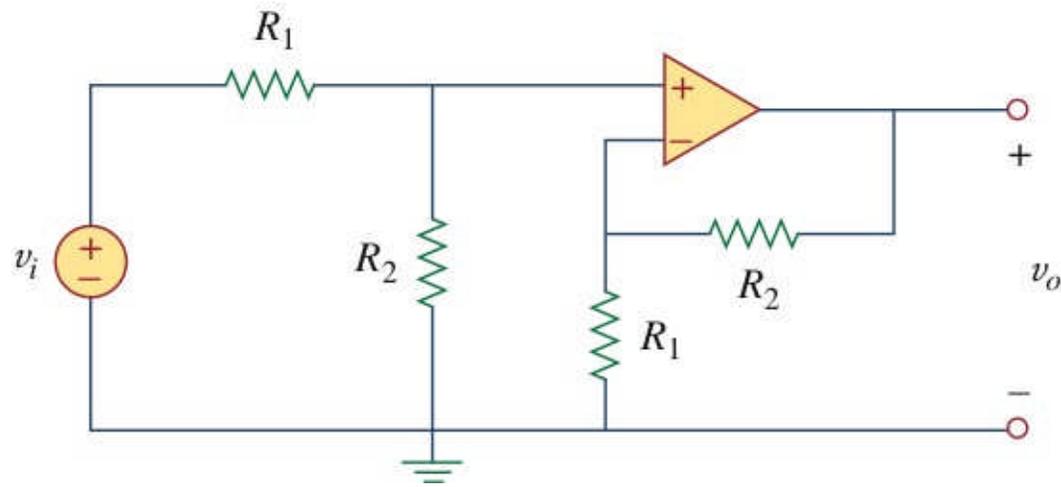
Summer



Difference amplifier

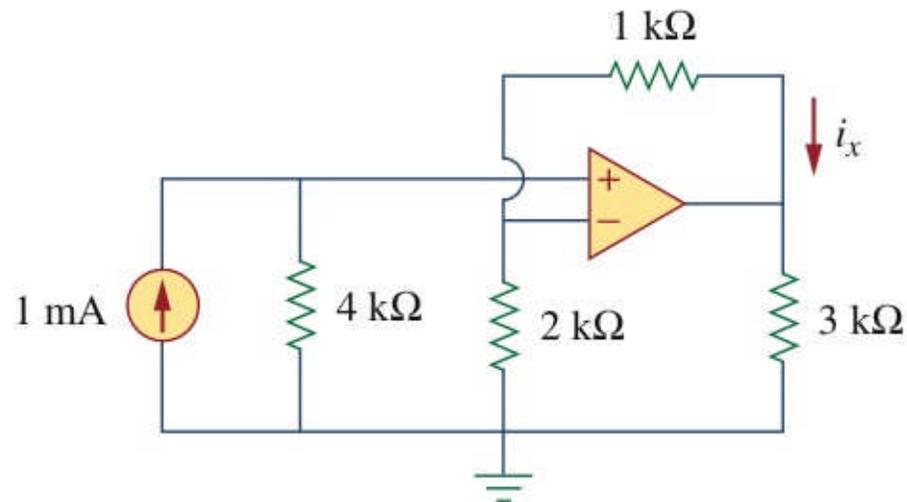
Example Problem 2

Find the voltage gain v_o/v_i of the op amp circuit below.



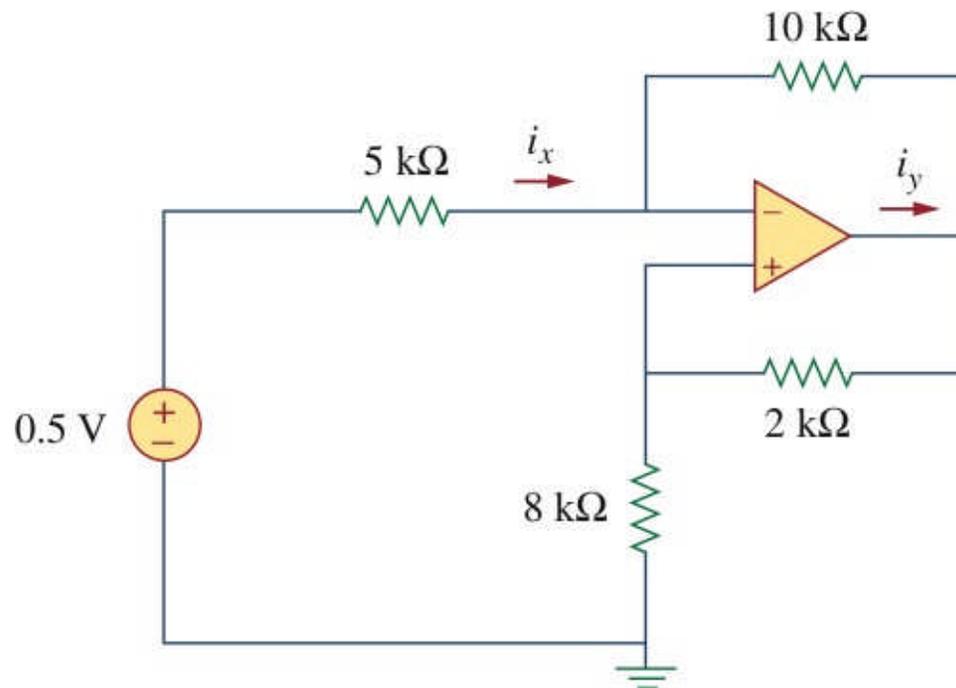
Example Problem 3

Calculate i_x and the power dissipated by the 3-k Ω resistor.



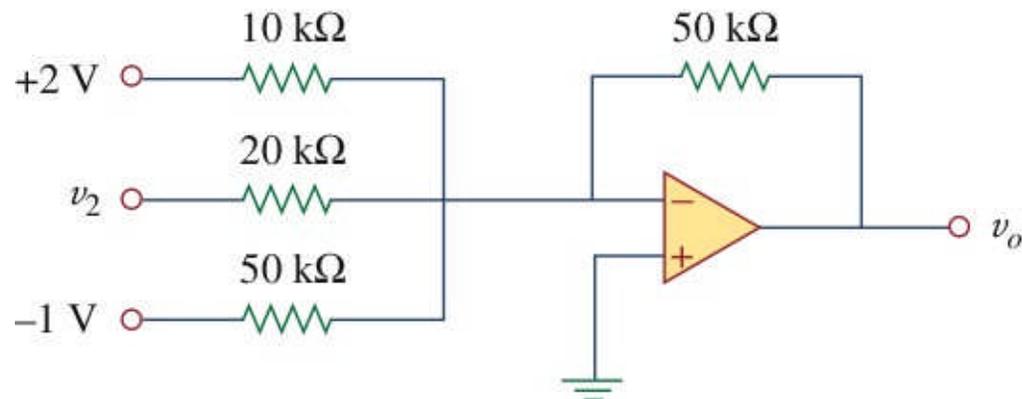
Example Problem 4

Determine i_x and i_y below.



Example Problem 5

Determine the value of v_2 , in order to make $v_o = -16.5$ V.



Example Problem 6

Write two KCL equations necessary to solve for v_o in terms of v_s .

