Chapter 5, Solution 92

Refer to the *bridge amplifier* shown in Fig. 5.109. Determine the voltage gain v_o/v_i .
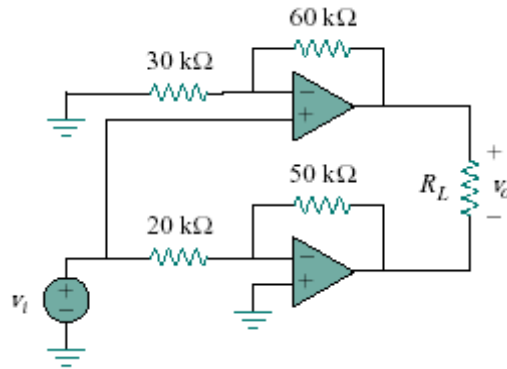

Figure 5.109
For Prob. 5.92.

Solution

The top op amp circuit is a non-inverter, while the lower one is an inverter. The output at the top op amp is

$$v_1 = (1 + 60/30)v_i = 3v_i$$

while the output of the lower op amp is

$$v_2 = -(50/20)v_i = -2.5v_i$$

Hence, $v_o = v_1 - v_2 = 3v_i + 2.5v_i = 5.5v_i$

$$v_o/v_i = \textbf{5.5}$$