

Chapter 5, Solution 57.

Let v_1 be the output of the first op amp and v_2 be the output of the second op amp.

The first stage is an inverting amplifier.

$$v_1 = -\frac{50}{25} v_{s1} = -2v_{s1}$$

The second stage is a summer.

$$v_2 = -(100/50)v_{s2} - (100/100)v_1 = -2v_{s2} + 2v_{s1}$$

The third stage is a noninverting amplifier

$$v_o = \left(1 + \frac{100}{50}\right)v_2 = 3v_2 = \underline{6v_{s1} - 6v_{s2}}$$