

Chapter 5, Solution 49.

$$R_1 = R_3 = 20\text{k}\Omega, R_2/(R_1) = 4$$

$$\text{i.e.} \quad R_2 = 4R_1 = 80\text{k}\Omega = R_4$$

$$\text{Verify:} \quad v_o = \frac{R_2}{R_1} \frac{1 + R_1/R_2}{1 + R_3/R_4} v_2 - \frac{R_2}{R_1} v_1$$

$$= 4 \frac{(1 + 0.25)}{1 + 0.25} v_2 - 4v_1 = 4(v_2 - v_1)$$

Thus, $R_1 = R_3 = \mathbf{20\text{ k}\Omega}$, $R_2 = R_4 = \mathbf{80\text{ k}\Omega}$.