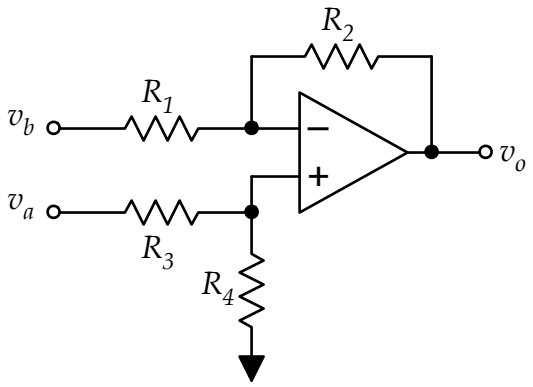
EE 230 — HW 1.13 Name_____

In class, we saw that the simple difference amp shown at right was "perfect" if the ratios R_2/R_1 and R_4/R_3 were exactly matched.



If $R_2 = R_4 = 15\ \text{k}\Omega$ and $R_1 = R_3 = 1\ \text{k}\Omega$, calculate the difference-mode gain (G_d) and the common-mode gain (G_c) and the common-mode rejection ratio (CMRR). (Not a trick question – the answers are nearly trivial.)

Now repeat if R_4 is 5% bigger than R_2 and R_1 is 5% bigger than R_3. (i.e. $R_2 = 15\ \text{k}\Omega$, $R_4 = 15.75\ \text{k}\Omega$, $R_3 = 1\ \text{k}\Omega$, and $R_1 = 1.05\ \text{k}\Omega$.)