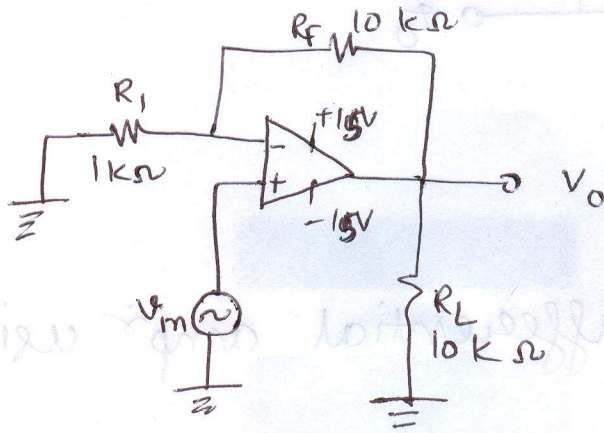


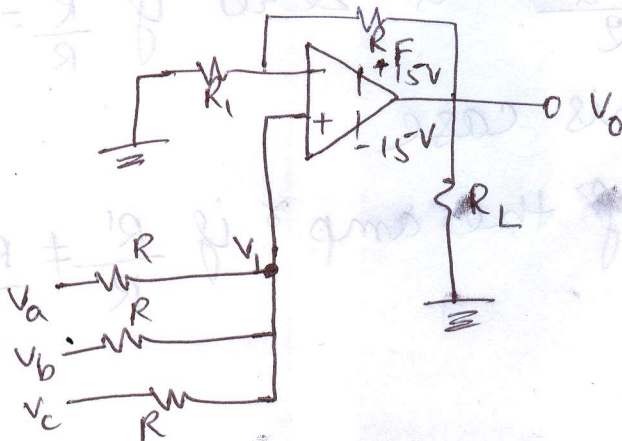
Tut Sheet 2

Q1



Given input offset voltage $V_{io} = 10 \text{ mV dc max}^m$, what is the max^m possible output offset voltage, V_{oo} , caused by the I/P offset vol. V_{io} ?

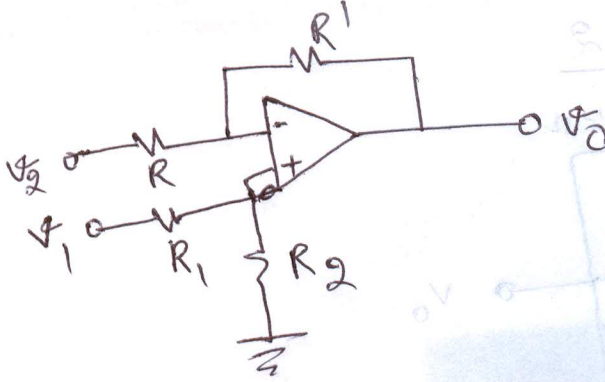
Q2



if $V_a = +2V$
 $V_b = -3V$
 $V_c = +4V$

$R = R_I = 1k\Omega$
 $R_F = 2k\Omega$

Determine the vol. V_1 at the non inverting terminal & the output vol. V_o
 Assume that the op-amp is initially nulled.



Given is a differential amp^r using ideal op-amp

- 1) Find the O/P vol, v_o
- 2) Show that the O/P corresponding to common-mode vol,

$$v_{cm} = \frac{v_1 + v_2}{2} \text{ is zero if } \frac{R'}{R} = \frac{R_2}{R_1}$$

Find v_o in this case

- 3) Find CMRR of the amp^r if $\frac{R'}{R} \neq \frac{R_2}{R_1}$

$$R = R_1 = 9k\Omega$$

$$R' = R_2 = 8k\Omega$$

$$v_o^+ = 0V$$

$$v_o^- = -3V$$

$$v_o = +1V$$

Determine the vol, v_o at the non-inverting terminal & the output vol, v_o . Assume that the op-amp is initially nulled.