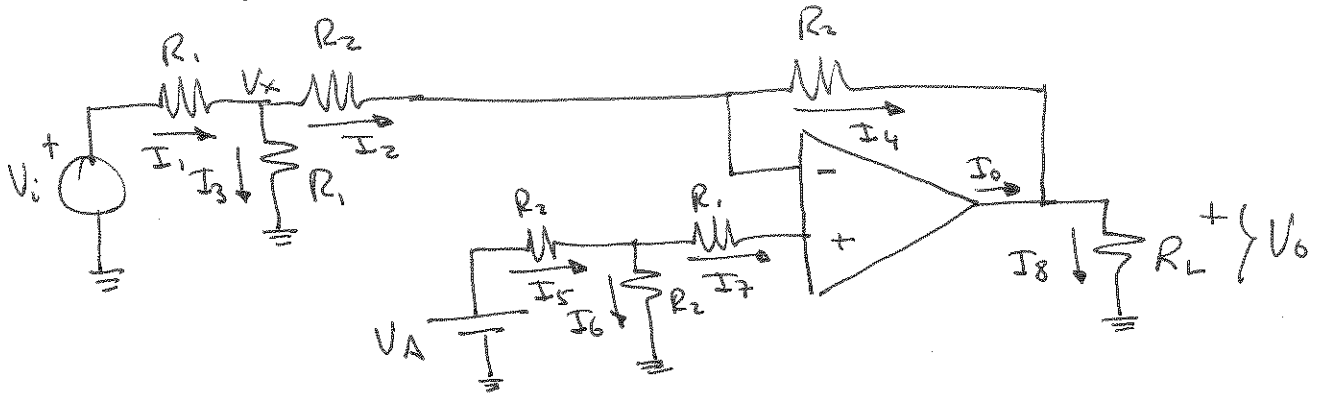


Solución Examen Referido 3 ΔO



a) $I_7 = 0 \Rightarrow I_5 = I_6 \rightarrow \frac{V_{\Delta} - V_P}{R_2} = \frac{V_P}{R_2} \Rightarrow V_{\Delta} = 2V_P \Rightarrow V_P = 4V$

$I_1 = I_3 + I_2 \Rightarrow \frac{V_i - V_x}{R_1} = \frac{V_x}{R_1} + \frac{V_x - V_n}{R_2} \Rightarrow \frac{V_i}{R_1} = V_x \left(\frac{2}{R_1} + \frac{1}{R_2} \right) - \frac{V_n}{R_2}$

$I_2 = I_4 \Rightarrow \frac{V_x - V_n}{R_2} = \frac{V_n - V_o}{R_2} \Rightarrow V_o = 2V_n - V_x$

$V_n = V_P = 4V \rightarrow V_o = 2V_n - \frac{\frac{V_i}{R_1} + \frac{V_n}{R_2}}{\frac{2}{R_1} + \frac{1}{R_2}} = 7'2 - \frac{V_i}{2'5}$

b) $I_o = I_8 - I_4 = \frac{V_o}{R_L} + \frac{V_o - V_n}{R_2} \Rightarrow V_o = \frac{I_{o_{max}} + \frac{V_n}{R_2}}{\frac{1}{R_L} + \frac{1}{R_2}} = 20'25V$

$\Rightarrow V_i = 2'5 (7'2 - V_o) = -32'625V$

Cartagena99

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