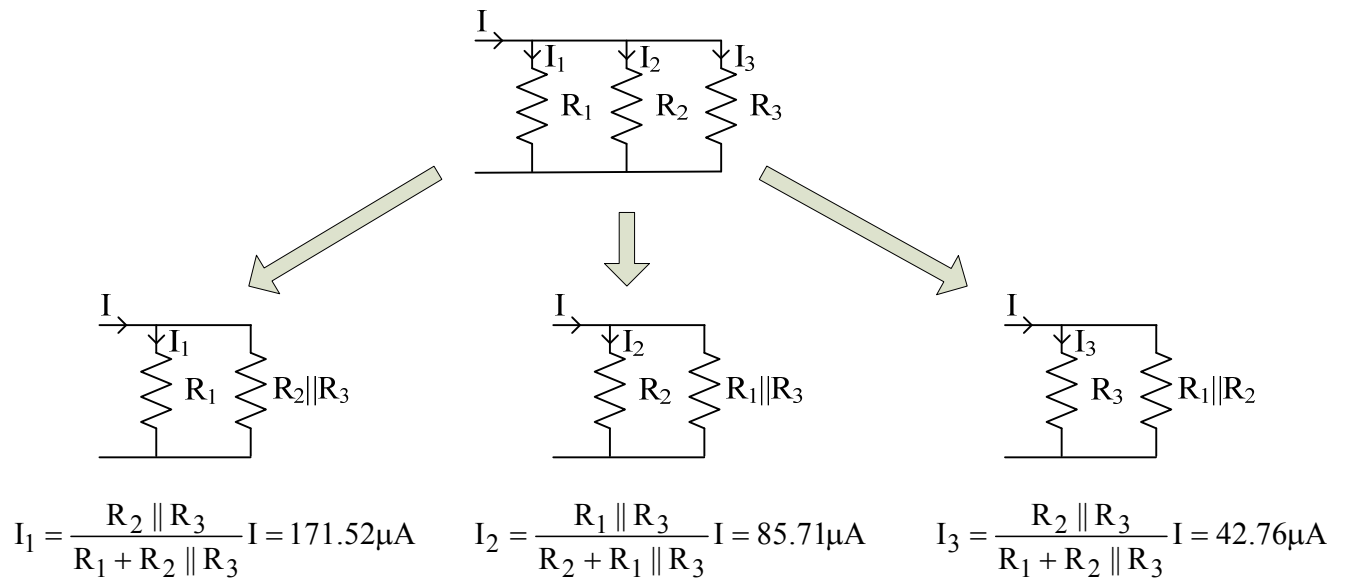


Prob A.I.1. $V_{R1} = 1.71 \text{ V}$, $V_{R2} = 3.43 \text{ V}$, $V_{R3} = 6.86 \text{ V}$.

— ◦ ◦

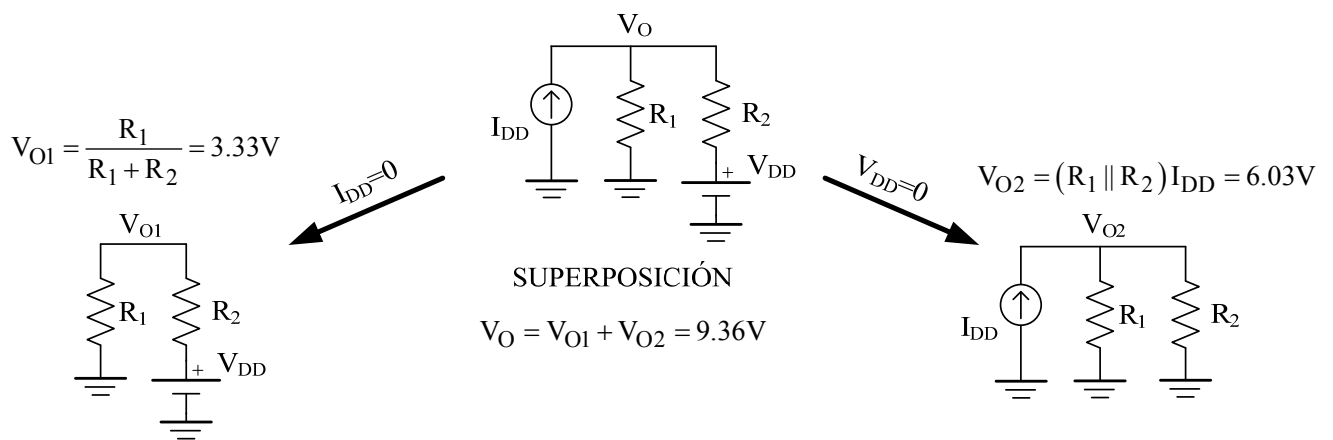
Prob A.I.2.

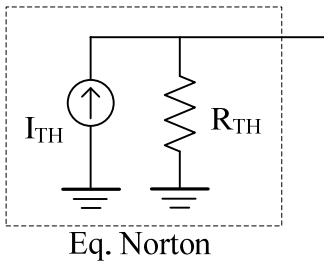


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Prob A.I.3.

- A) $V_O = 4.67 \text{ V}$, $V_{TH} = 4.67 \text{ V}$, $I_{TH} \approx 7 \text{ mA}$, $R_{TH} = 0.67 \text{ k}\Omega$
- B) $V_O = 2.86 \text{ V} + 3.42 \text{ V sen}(\omega t)$
- C) $V_O = 9.36 \text{ V}$ LTspice IV

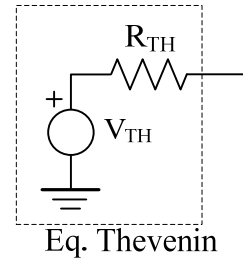




$$V_{TH} = V_O = 9.36V$$

$$R_{TH} = R_1 \parallel R_2 = 0.67k\Omega$$

$$I_{TH} = \frac{V_{TH}}{R_{TH}} = 13.97mA$$



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Prob A.I.4. LTSpice IV

- A: 1) $V_O = -2 V \text{ sen}(\omega t)$
 2) $I_{R1} = I_{R2} = 10 \mu A \text{ sen}(\omega t)$
 3) Por la corriente de salida del OA y al ser $R_2 \neq R_L$.
- B: 1) $V_O = +2.1V \text{ sen}(\omega t)$
 2) $I_{R1} = I_{R2} = 10\mu A \text{ sen}(\omega t)$
 3) Igual.

— ° ○

Prob A.I.5.

- A: 1) $A_V = -30, A_{VS} = -18.75$
 2) No, por el modelo ideal del OA, $I_n = I_p = 0$
 3) $V_O = -562.5mV \text{ sen}(\omega t)$
- B: 1) $A_V = 31, A_{VS} = 31$
 2) Lo mismo.
 3) $V_O = 930mV \text{ sen}(\omega t)$

— ° ○

Prob A.I.6. LTSpice IV

$$A: A_{VS} = -\frac{R_2}{R_1} \left(\frac{R_1 \parallel R_3}{R_1 \parallel R_3 + R_S} \right) = -3.68$$

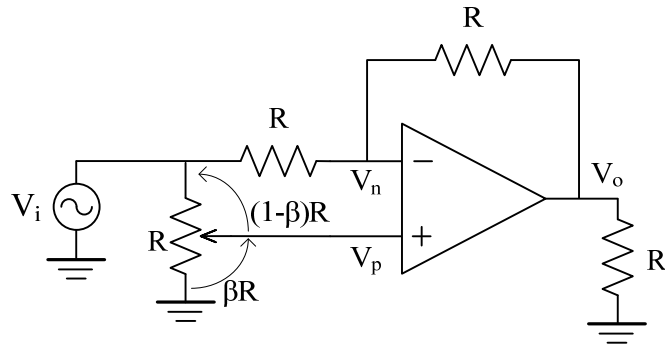
$$B: A_{VS} = \left(1 + \frac{R_2}{R_1} \right) \left(\frac{R_3}{R_3 + R_S} \right) = 5.66$$

$$C: A_{VS} = \frac{R_2 R_4}{R_1 R_3} = 50$$

$$D: A_{VS} = \left(1 + \frac{R_2}{R_1} \right) \left(-\frac{R_4}{R_3} \right) = -60$$

— ° ○

Prob A.I.7.



$$\left. \begin{array}{l} V_p = \beta V_i \\ \frac{V_i - V_n}{R} = \frac{V_n - V_o}{R} \end{array} \right\} A_V = \frac{V_o}{V_i} = (2\beta - 1) \Rightarrow -1 \leq A_V \leq 1$$

— ° ○

Prob A.I.8. $R_{ABC} = 586k\Omega$, $R_L = 20.8k\Omega$.

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Prob A.I.9. $R_{ABC} = 652k\Omega$, $R_L = 62.5k\Omega$.