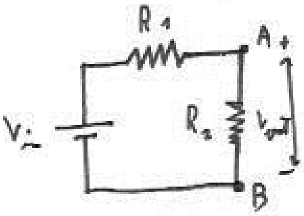
ESTRUCTURAS ÚTILES

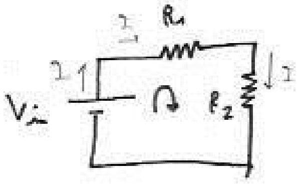
DIVISOR DE TENSIÓN



$$V_{AB} = \boxed{V_{out} = V_{in} \frac{R_2}{R_1+R_2}}$$

IMPORTANTÍSIMO → No sale intensidad (como si, p. ej., se conecta un cable sólo a B)

Demostración:

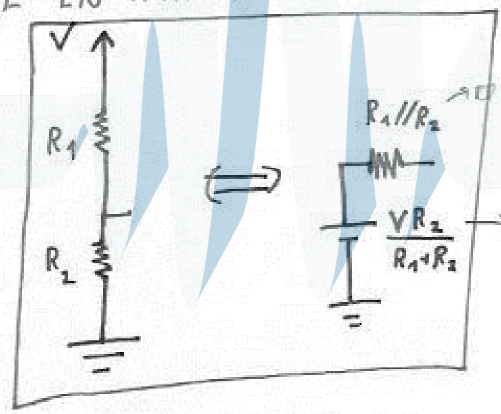


$$I R_1 + I R_2 - V_{in} = 0$$

$$I = V_{in} \cdot \frac{1}{R_1+R_2}$$

$$V_{out} = I R_2 = V_{in} \frac{R_2}{R_1+R_2} \quad \text{C.Q.D.}$$

APARECE EN TRANSISTORES

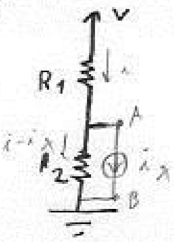


→ El paralelo (si V=0, [illegible])

→ Divisor de tensión (si no [illegible])

Demostración:

El equivalente Thevenin



$$V_{AB} = V_{TH} + i_x R_{TH}$$

$$V = i R_1 + (i - i_x) R_2$$

$$i (R_1+R_2) = V + i_x R_2$$

$$i = V \cdot \frac{1}{R_1+R_2} + i_x \frac{R_2}{R_1+R_2}$$

$$V_{AB} = i R_2 - i_x R_2 = V \frac{R_1}{R_1+R_2} + i_x \frac{R_2^2}{R_1+R_2} - i_x R_2 =$$

$$= V \frac{R_1}{R_1+R_2} + i_x \left(\frac{R_2^2}{R_1+R_2} - \frac{R_2 R_1 + R_2^2}{R_1+R_2} \right) = \underbrace{V \frac{R_1}{R_1+R_2}}_{V_{TH}} + i_x \underbrace{\frac{R_1 R_2}{R_1+R_2}}_{R_1//R_2 = R_{TH}}$$