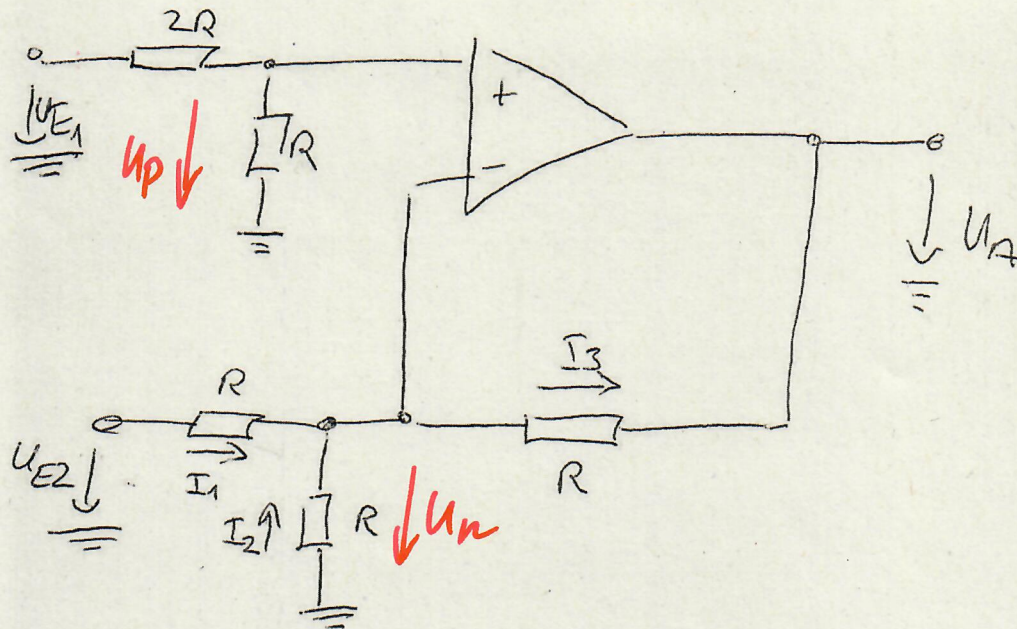




$$\frac{U_P}{U_{E1}} = \frac{R}{3R} \checkmark \Leftrightarrow U_P = \frac{1}{3} U_{E1} \checkmark$$

$$I_1 = \frac{U_{E2} - U_n}{R} \checkmark$$

$$I_2 = \frac{-U_n}{R}$$

← Vorzeichen vergessen

Kirchhoff:

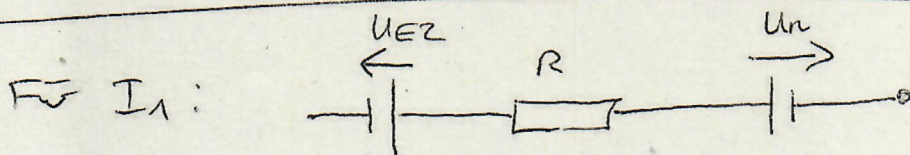
$$I_1 + I_2 = I_3$$

$$\Leftrightarrow \frac{U_{E2} - U_n}{R} + \frac{-U_n}{R} = I_3 = \frac{U_{E2}}{R}$$

Folgefehler

Masche: $U_A + I_2 \cdot R + I_3 \cdot R = 0$

$$U_A = -\frac{U_n}{R} R - \frac{U_{E2}}{R} R = -\frac{1}{3} U_{E1} - U_{E2} \text{ falsch}$$



$$\frac{U_{E2}}{R} - 2 \frac{U_n}{R} = I_3 = \frac{U_n - U_A}{R}$$

$$\Leftrightarrow \frac{U_{E2}}{R} - 3 \frac{U_n}{R} = -\frac{U_A}{R} \quad | \cdot R$$

$$\Leftrightarrow U_{E2} - 3U_n = -U_A \quad | U_n = U_P = \frac{1}{3} U_{E1}$$

$$\Leftrightarrow U_{E2} - 3 \cdot \frac{1}{3} U_{E1} = -U_A \quad \Leftrightarrow \boxed{U_A = U_{E1} - U_{E2}}$$