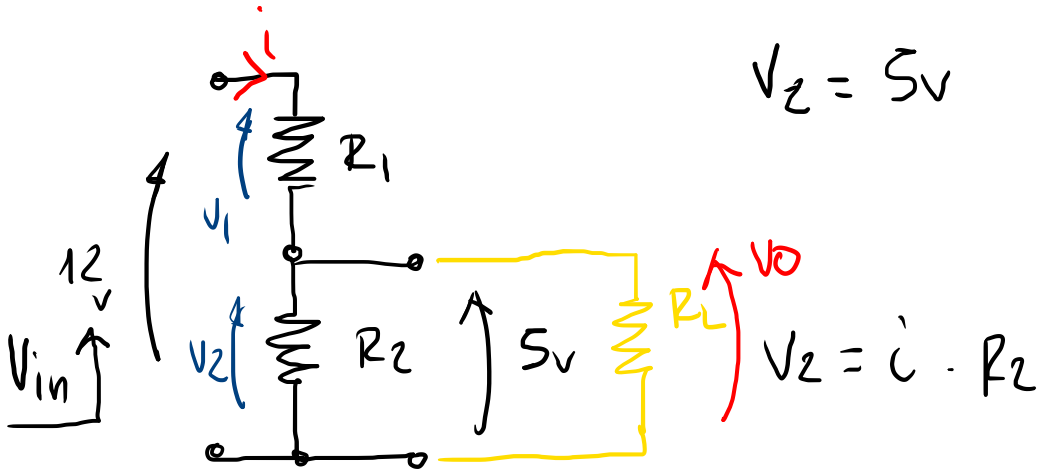
E152



$V_2 = 5V$

$$i = \frac{V_{in}}{\underbrace{R_1 + R_2}_{10K}} = \frac{12V}{10K} = 1{,}2\,mA$$

$V_2 = i \cdot R_2$

$$R_2 = \frac{V_2}{i} = \frac{5V}{1{,}2\,mA} = 4166\,\Omega$$

$$R_1 = 10K - 4166 = 5834\,\Omega$$

$$R_t = R_1 + \underbrace{R_2 // R_L}_{R_{eq}} = R_1 + \frac{R_2 \cdot R_L}{R_2 + R_L}$$

$$\frac{1}{R_{eq}} = \frac{1}{R_2} + \frac{1}{R_L} = \frac{R_L + R_2}{R_2 \cdot R_L}$$

$$i = \frac{V_{in}}{R_t} = \dots \qquad V_o = i \cdot R_2 // R_L$$