

$$\begin{aligned}
& \left. \begin{aligned} I_1 &= \frac{\mathcal{E}DC}{r+R_1} \Rightarrow U_1 = R_1 * I_1 = \frac{\mathcal{E}DC * R_1}{r+R_1} \Rightarrow \mathcal{E}DC = U_1 * \left(\frac{r+R_1}{R_1} \right) = U_1 * \left(\frac{r}{R_1} + 1 \right) \\ I_2 &= \frac{\mathcal{E}DC}{r+R_2}; U_2 = R_2 * I_2 = \frac{\mathcal{E}DC * R_2}{r+R_2} \Rightarrow \mathcal{E}DC = U_2 * \left(\frac{r+R_2}{R_2} \right) = U_2 * \left(\frac{r}{R_2} + 1 \right) \end{aligned} \right\} \Rightarrow \\
& U_1 * \left(\frac{r}{R_1} + 1 \right) = U_2 * \left(\frac{r}{R_2} + 1 \right) \\
& r * \left(\frac{U_1}{R_1} - \frac{U_2}{R_2} \right) = U_2 - U_1 \\
& r = \frac{U_2 - U_1}{\frac{U_1}{R_1} - \frac{U_2}{R_2}} = \frac{R_2 R_1 (U_2 - U_1)}{U_1 R_2 - R_1 U_2} \\
& \mathcal{E}DC = U_2 * \left(\frac{r}{R_2} + 1 \right) = U_2 * \left(\frac{\frac{R_2 R_1 (U_2 - U_1)}{U_1 R_2 - R_1 U_2}}{R_2} + 1 \right) = U_2 * \left(\frac{R_1 (U_2 - U_1)}{U_1 R_2 - R_1 U_2} + 1 \right) = \\
& = U_2 * \left(\frac{R_1 (U_2 - U_1) + U_1 R_2 - R_1 U_2}{U_1 R_2 - R_1 U_2} \right) = U_2 * \left(\frac{U_1 (R_2 - R_1)}{U_1 R_2 - R_1 U_2} \right) = \frac{U_1 U_2 (R_2 - R_1)}{U_1 R_2 - R_1 U_2} \\
& I_{\kappa 3} = \frac{\mathcal{E}DC}{r} = \frac{U_1 U_2 (R_2 - R_1)}{U_1 R_2 - R_1 U_2} \cdot \frac{R_2 R_1 (U_2 - U_1)}{U_1 R_2 - R_1 U_2} = \frac{U_1 U_2 (R_2 - R_1)}{R_2 R_1 (U_2 - U_1)} = \frac{3,5 * 3,3 (3,5 - 1,65)}{3,5 * 1,65 (3,5 - 3,3)} \text{ A} = 18,5 \text{ A}
\end{aligned}$$