

15.) $R=100\Omega$ $L=0,2\text{H}$ $C=20\mu\text{F}$ $f=50\text{Hz}$ $U_{\text{eff}}=230\text{V}$

a.) $I_0=?$ $I_{\text{eff}}=?$ $P=?$

b.) $f_R=?$ c.) $f=f_R$ $I_{0R}=?$ $I_{\text{eff}R}=?$ $P_R=?$

$$Z = \sqrt{R^2 + \left(L\omega - \frac{1}{\omega C}\right)^2}$$

$$I_{\text{eff}} = \frac{U_{\text{eff}}}{Z}$$

$$I_0 = I_{\text{eff}} \cdot \sqrt{2}$$

$$f_R = \frac{1}{2\pi\sqrt{LC}}$$

$$P = I_{\text{eff}}^2 R$$

a.) $Z = \sqrt{R^2 + \left(L\omega - \frac{1}{\omega C}\right)^2} = \dots$ $I_{\text{eff}} = \frac{U_{\text{eff}}}{Z} = \dots$ $I_0 = I_{\text{eff}} \cdot \sqrt{2} = \dots$

$$P = I_{\text{eff}}^2 R = \dots$$

b.) $f_R = \frac{1}{2\pi\sqrt{LC}} = \dots$

c.) rezonancia $\rightarrow Z = R$

$$I_{\text{eff}R} = \frac{U_{\text{eff}}}{R} = \dots$$

$$I_0 = I_{\text{eff}} \cdot \sqrt{2} = \dots$$

$$P_R = I_{\text{eff}R}^2 \cdot R = \dots$$