

36.) $R = 50 \Omega$ L $U_{\text{eff}} = 230V$ $f = 50 \text{ Hz}$ $I_{\text{eff}1} = 2A$
 $\arctan + \text{egy } C \text{ is}$ $I_{\text{eff}2} = 2A$ a.) $L, C = ?$ b.) $P_1 = ?$ $P_2 = ?$

$$\omega = 2\pi f$$

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

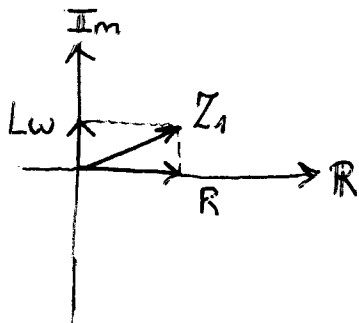
$$Z = \sqrt{R^2 + (L\omega - \frac{1}{\omega C})^2}$$

a.)

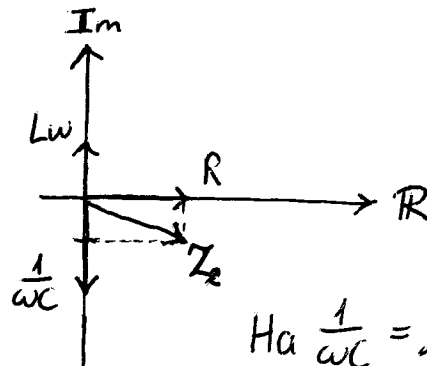
$$Z_1 = \frac{U_{\text{eff}}}{I_{\text{eff}1}} = \dots$$

$$Z_1 = \sqrt{R^2 + L^2 \omega^2} \Rightarrow \underline{\underline{L}}$$

Mivel $I_{\text{eff}1} = I_{\text{eff}2} \Rightarrow Z_1 = Z_2$



+ C



$$\text{Ha } \frac{1}{\omega C} = 2 \cdot L\omega$$

$$\text{akkor } Z_1 = Z_2$$

$$\frac{1}{\omega C} = 2L\omega$$

$$C = \frac{1}{2L\omega^2} = \dots$$

b.)

$$P_1 = I_{\text{eff}1}^2 \cdot R = \dots$$

$$P_2 = I_{\text{eff}2}^2 \cdot R = P_1, \text{ mert } I_{\text{eff}1} = I_{\text{eff}2}$$