

$$(5) \quad I_{\text{eff}} = 0,5 \text{ A} \quad L = 20 \text{ mH}, \quad R = 200 \Omega$$

$$V_{\text{eff}, R} = V_{\text{eff}, L}, \quad C = 1,7 \cdot 10^{-7} \text{ F}$$



$$(a) \quad I_{\text{eff}} \cdot R = I_{\text{eff}} \cdot X_L = I_{\text{eff}} \cdot \omega L$$

$$\Rightarrow R = \omega L$$

$$\Rightarrow \omega = \frac{R}{L} = 10^4 \frac{\text{rad}}{\text{s}}, \quad X_C = \frac{1}{\omega C} = 585,24 \Omega$$

$$\boxed{V_{\text{eff}, L} = V_{\text{eff}, R} = I_{\text{eff}} \cdot R = 0,5 \cdot 200 \text{ V} = 100 \text{ V}}$$

$$\boxed{V_{\text{eff}, C} = I_{\text{eff}} \cdot \frac{1}{\omega C} = 0,5 \cdot \frac{1}{10^4 \cdot 1,7 \cdot 10^{-7}} = 294,12 \text{ V}}$$

$$\tan \delta = \frac{\frac{1}{\omega C} - \omega L}{R} = \frac{1}{\omega CR} - 1$$

$$(b) \quad \Rightarrow \boxed{\delta = \tan^{-1} \left( \frac{1}{\omega CR} - 1 \right) = 62,35^\circ} \quad \text{Desfase entre } \text{fuerza y } I.$$

(c) Pot. suministrada:

$$\boxed{\langle P \rangle = V_{\text{eff}} \cdot I_{\text{eff}} \cdot \cos \delta = 50,0 \text{ W}}$$

$$V_{\text{eff}} = I_{\text{eff}} \cdot \sqrt{\left( \frac{1}{\omega C} - R \right)^2 + R^2} = 218,36 \text{ V}$$