

$$P_R = I^2 \cdot R \rightarrow 100 \cdot 3 = 300W$$

$$P_X L = 0W$$

$$P_X C = 0W$$

b- Potencia reactiva

$$P_{PR} = 100 \cdot 50 \sin(0) = 0VAR$$

$$P_{PC} = 500W \sin(-90) = -500VAR$$

$$P_{PL} = 900W \sin(90) = 900VAR$$

$$\begin{aligned} & \rightarrow I^2 \cdot X_C \\ & \rightarrow I^2 \cdot X_L \end{aligned}$$

c- Potencia aparente

$$P_b = \sqrt{300^2 + (900VAR - 500VAR)^2}$$

$$P_b = 500W$$

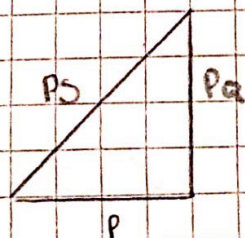
d- Watts total Volt-amperes reactivos Volt-omfres F_p

$$P = 300W$$

$$P_\phi = 400VAR$$

$$P_s = 500VA$$

e- Triangulo de potencia



f- Energia disipada por el resistor durante ciclo completo

$$E = \frac{(50 \cdot \sqrt{2}) \cdot (10 \cdot \sqrt{2})}{60Hz} \quad E = 16,667J$$

g- Energia guardada o devuelta

$$E_L = 23,87mJ = \frac{10^2}{2}$$

$$E_C = 530,52nF \cdot \frac{(50)^2}{2}$$

$$E_L = 1,1935J$$

$$E_C = 0,663J$$

$$X_L = 2\pi \cdot f \cdot L \rightarrow L = \frac{R}{2\pi \cdot f} \rightarrow \frac{9\Omega}{2\pi \cdot 60Hz} = L \quad L = 23,87$$

$$X_C = \frac{1}{2\pi \cdot f \cdot C} \rightarrow C = \frac{1}{2\pi \cdot f \cdot X_C} \rightarrow C = 530,5$$