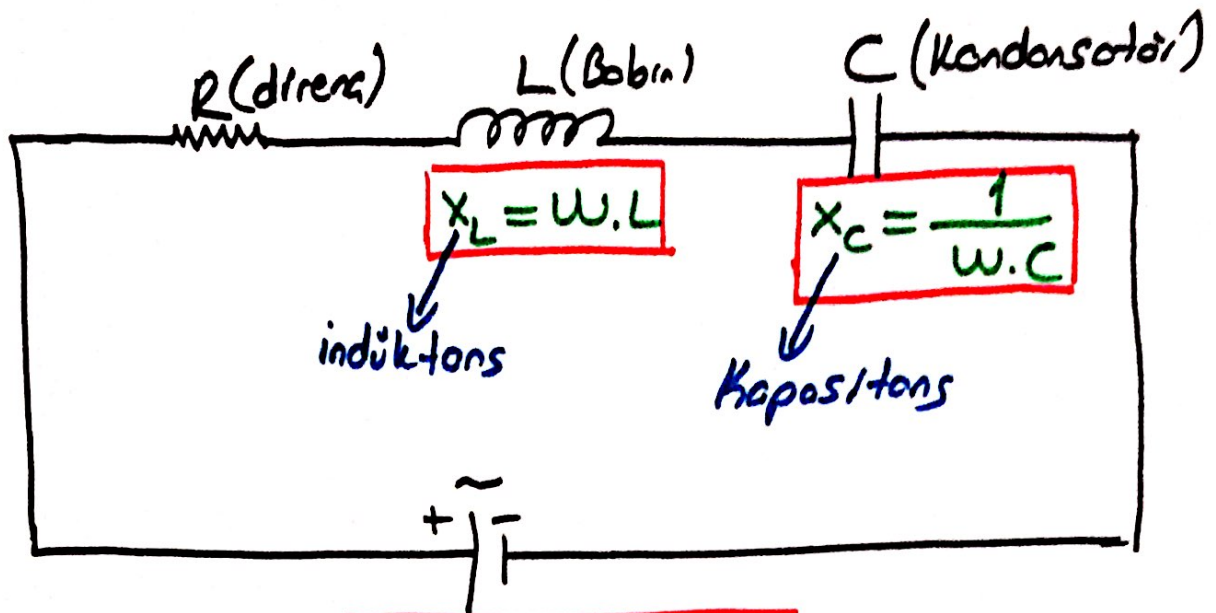


ALTERNATİF AKIM

①



NOT:

$$I = I_{\max} \sin \omega t$$

$$I_e = \frac{I_{\max}}{\sqrt{2}}$$

$$V = V_{\max} \sin \omega t$$

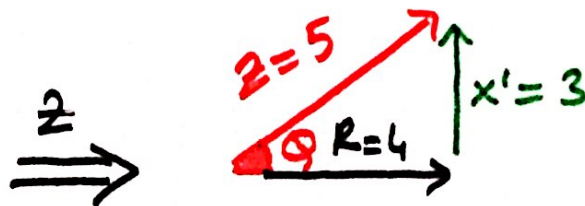
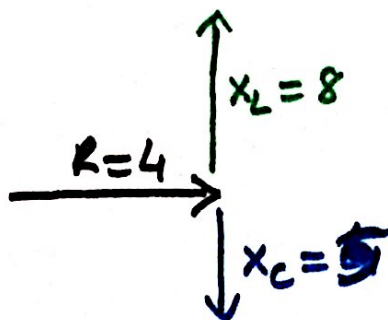
$$V_{\text{etkin}} = \frac{V_{\max}}{\sqrt{2}}$$

$$\omega = 2\pi f$$

$$V_e = I_e \cdot Z$$

Empedans (Z)

Empedans Hesaplama (Z):

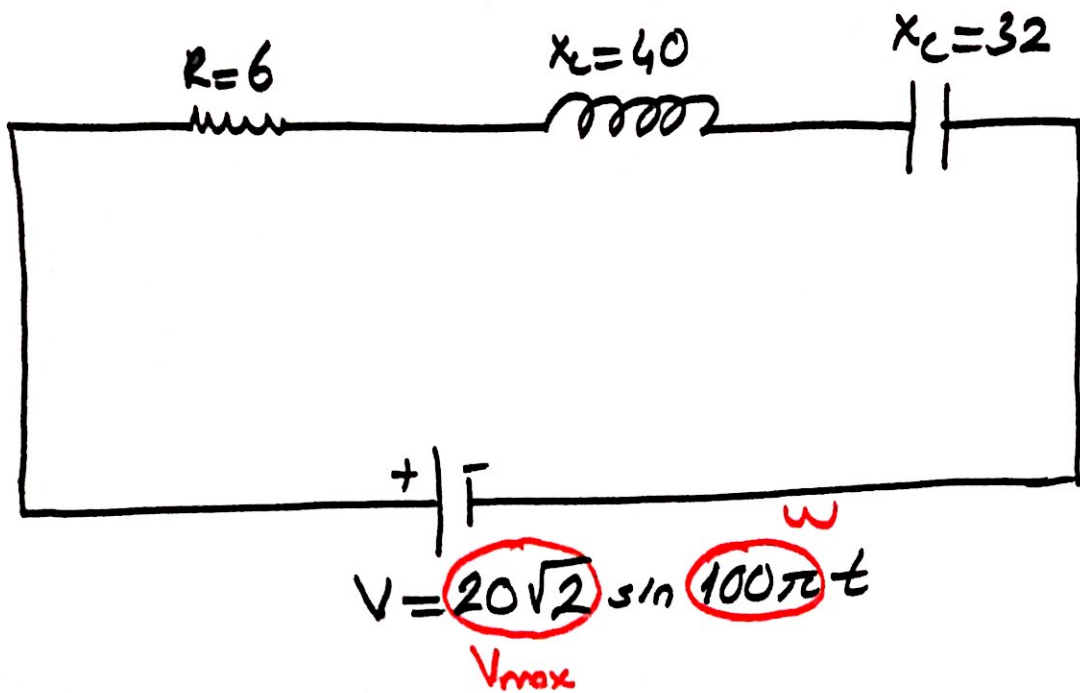


! Güç Gösterimi = $\cos \phi$

$$\cos \phi = \frac{R}{Z}$$

SORU:

2



a) $f = ?$

b) $I_e = ?$

a) $\omega = 100\pi$
 $2\pi f = 100\pi$
 $f = 50$
50

b) $V_e = \frac{V_{max}}{\sqrt{2}} = \frac{20\sqrt{2}}{\sqrt{2}} = 20$

$V_e = I_e \cdot Z$

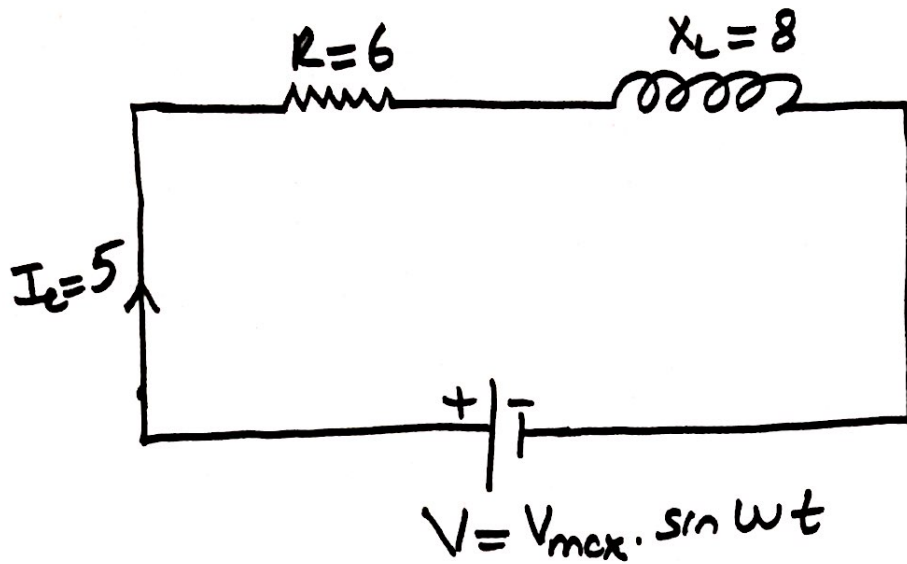
 $\Rightarrow Z = 10$

$V_e = I_e \cdot Z$
 $20 = I_e \cdot 10$

$I_e = 2$
2

SORU:

3



$$V_{\max} = ?$$

$$V_e = I_e \cdot Z$$

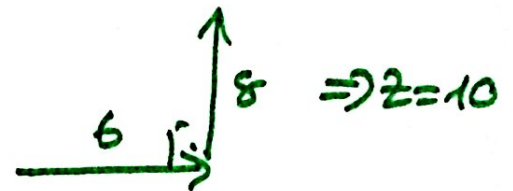
$$V_e = 5 \cdot 10$$

$$V_e = 50$$

$$V_e = \frac{V_{\max}}{\sqrt{2}}$$

$$50 = \frac{V_{\max}}{\sqrt{2}}$$

$$V_{\max} = 50\sqrt{2}$$



! NOT:

$\Rightarrow X_L = X_C$ ise devre rezonans halindedir.

rezonans frekans $\Rightarrow X_L = X_C$

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

$$2\pi f \cdot L = \frac{1}{2\pi f \cdot C}$$

$$f^2 = \frac{1}{4\pi^2 LC}$$

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

$\Rightarrow X_L > X_C$ ise akım gerilimden ϕ kadar gerilerdir.

$$I = I_{\max} \sin(\omega t - \phi)$$

$\searrow$ eksi

$\Rightarrow X_C > X_L$ ise akım gerilimden ϕ kadar öndedir.

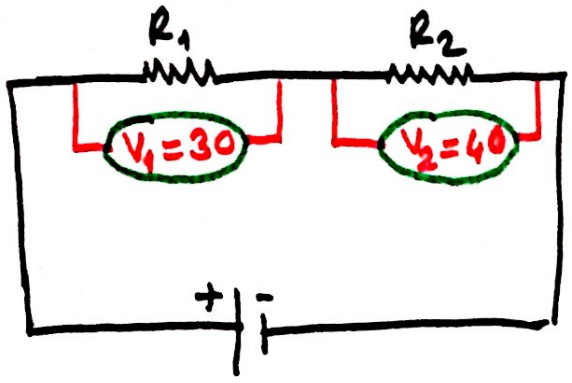
$$I = I_{\max} \sin(\omega t + \phi)$$

$\searrow$ artı

5

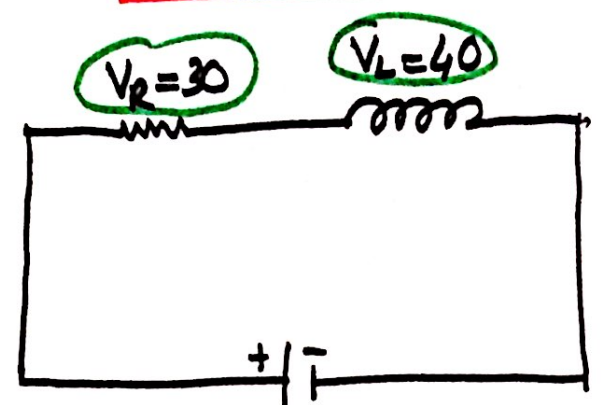
! NOT:

Doğru olum

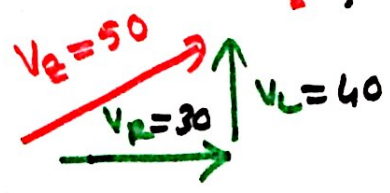


$V = ? 70$

Alternatif Alım



$V = ?$



! NOT:

$$E = I_e^2 \cdot R \cdot t$$

Enerji

$$P = I_e^2 \cdot R$$

Güç