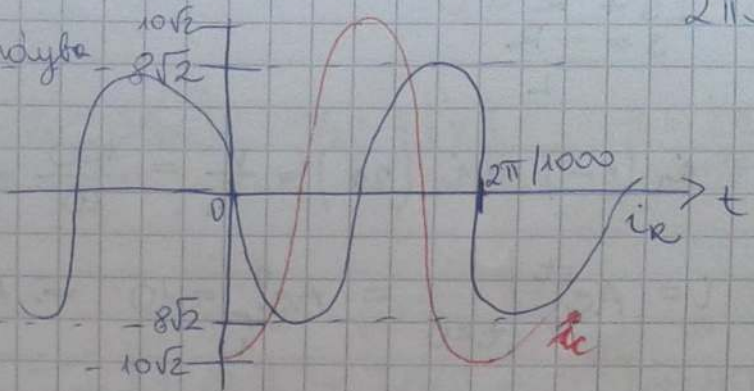


$$i_R(t) = 8\sqrt{2} \cdot \cos(1000t + 90^\circ)$$

poz. fázisból neg. irányba



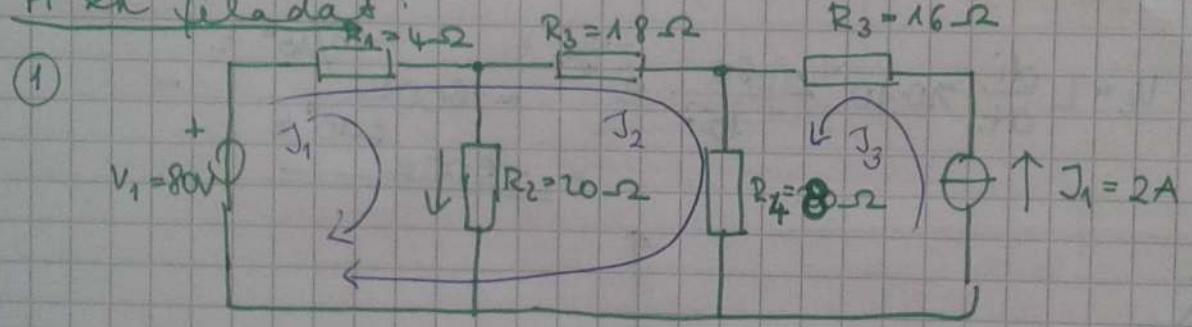
$$2\pi f = 1000$$

$$\frac{1}{f} = \frac{2\pi}{1000} = T$$

Cykluslet

08.10.

HF-ek feladat:



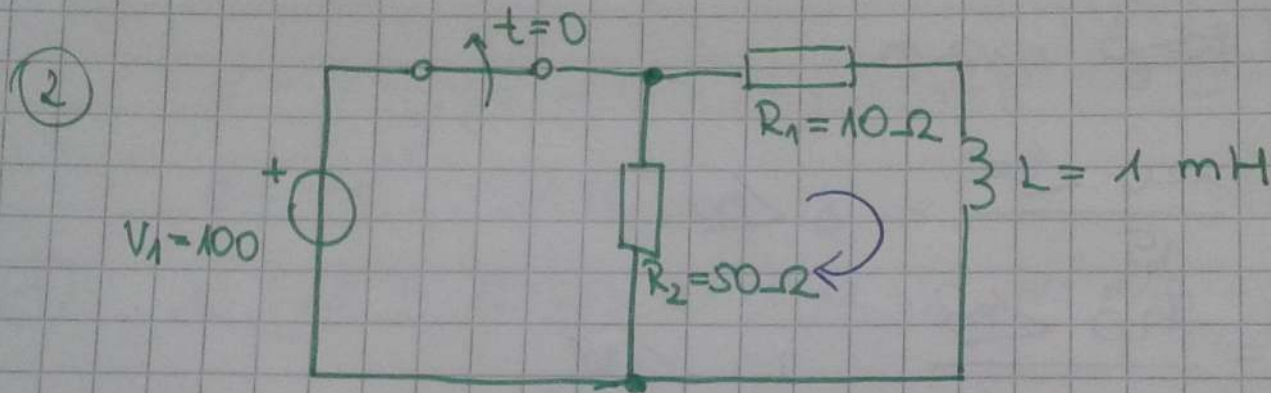
$$J_3 = 2A$$

$$J_1) -80 + 4(J_1 + J_2) + 20J_1$$

$$J_2) -80 + 4(J_2 + J_1) + 18J_2 + 8(J_2 + J_3)$$

$$J_2 = \frac{19}{11} \approx \underline{\underline{3,727A}}$$

$$\left. \begin{array}{l} J_1 = J_{R_2} \\ = \frac{67}{22} \approx 3,045A \end{array} \right\}$$



$$\sum v = 0 = v_L + v_{R_1} + v_{R_2} = L \frac{di}{dt} + \underbrace{(R_1 + R_2)}_R i$$

$$L \frac{di}{dt} + Ri = 0$$

$$i = Ae^{st}$$

$$LsAe^{st} + RAe^{st} = 0$$

$$\underbrace{Ae^{st}}_{\neq 0} (Ls + R) = 0$$

$$Ls + R = 0$$

$$s = \frac{-R}{L}$$

$$Ls + R = 0$$

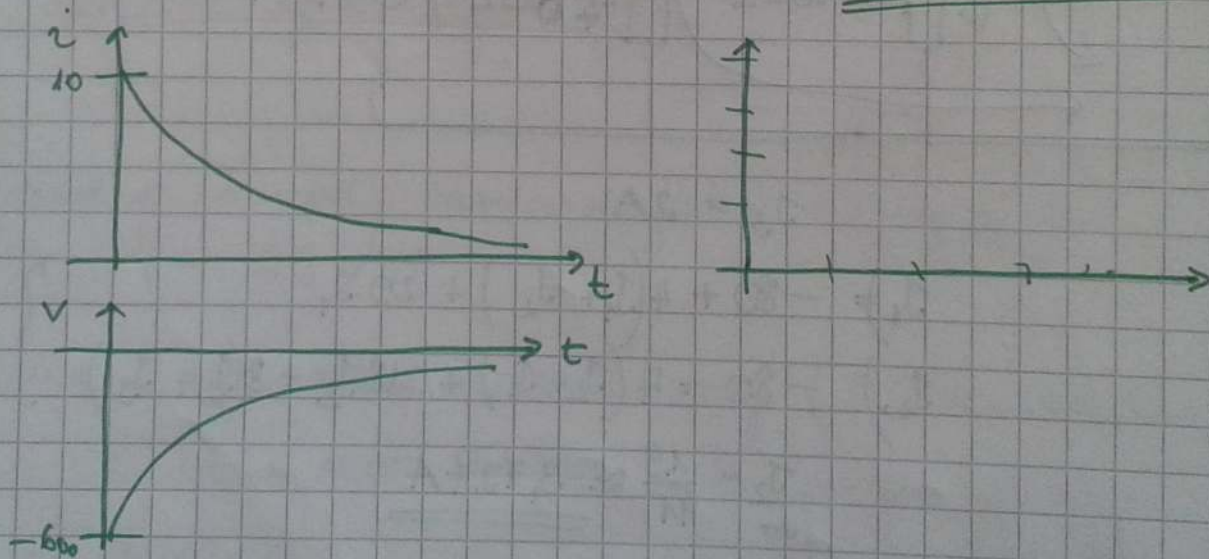
$$s = \frac{-R}{L}$$

$$i_L(0-) = i_L(0+) = \frac{V}{R_1} = \frac{100}{10} = 10 \text{ [A]}$$

$$i = Ae^{st} \Big|_{t=0} = Ae^{\frac{0}{1}} = 10 \Rightarrow A = 10 \text{ [A]}$$

$$i = 10e^{-\frac{60}{10^{-3}}t}$$

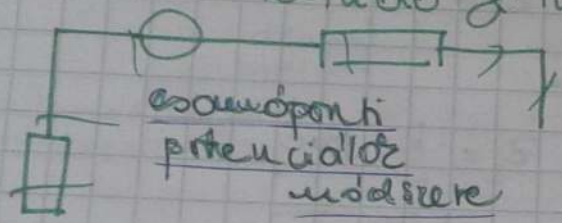
$$v_L = L \frac{di}{dt} = 70 \cdot 10^{-3} \cdot \frac{60}{10^{-3}} e^{-\frac{60}{10^{-3}}t} = -600 e^{-6 \cdot 10^4 t} = \underline{\underline{-600e^{-6 \cdot 10^4 t}}}$$



negativ kljestuning: pumpkrets omitt a \rightarrow z-be

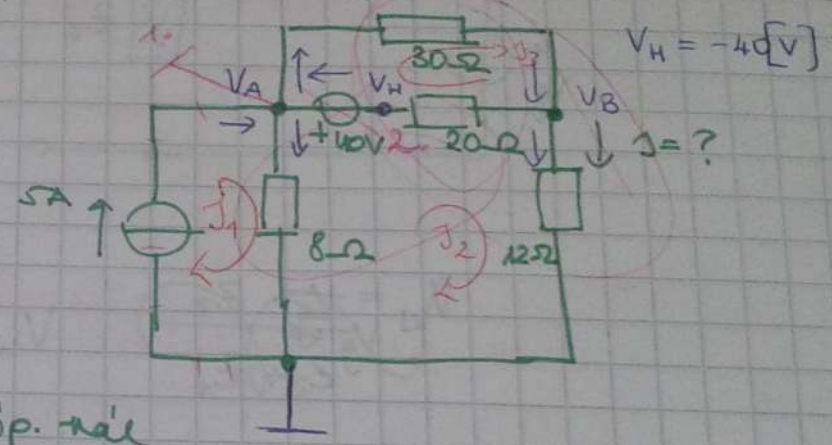
ZH-na aparoklás: 4 feladat várható
 DC: áttapcsolási törvények, AC: komplex amplitúdó & impedancia fogalmai

1)



ca' - on keresztül a föld BE
 folyik az áram, ha a
 forrás nem földbe megy

be: + ri: - a monop. nál



$$V_A:) \quad 5 + \frac{V_B - (V_A - 40)}{20} - \frac{V_A - V_B}{30} - \frac{V_A - 0}{8} = 0 \quad | \cdot 120$$

$$V_B:) \quad \frac{V_A - V_B}{30} - \frac{V_H(V_A - 40)}{20} - \frac{V_B - 0}{12} = 0 \quad | \cdot 60$$

$$V_A = 36[V] \quad V_B = 6[V] \quad J = \frac{V_B}{12} = 0,5[A]$$

Áramok számolása módosítva

$$J_1 = 5A$$

in V irányba és J₂ irányba u. az

$$V_3: \frac{V_A - V_B}{30} - \frac{V_A - 40}{20} - \frac{V_B - 0}{12} = 0 \quad | \cdot 60$$

$$V_A = 36[V] \quad V_B = 6[V] \quad I = \frac{V_B}{12} = \underline{\underline{0,5[A]}}$$

Ampera'na mo'el maddalere

$$I_1 = 5A$$

$$I_2: 8(I_2 - I_1) + 12I_2 + 20(I_2 - I_3) + 40 = 0$$

$$I_3: 30I_3 + 20(I_3 - I_2) - 40 = 0$$

$$I_2 = \underline{\underline{0,5[A]}}$$

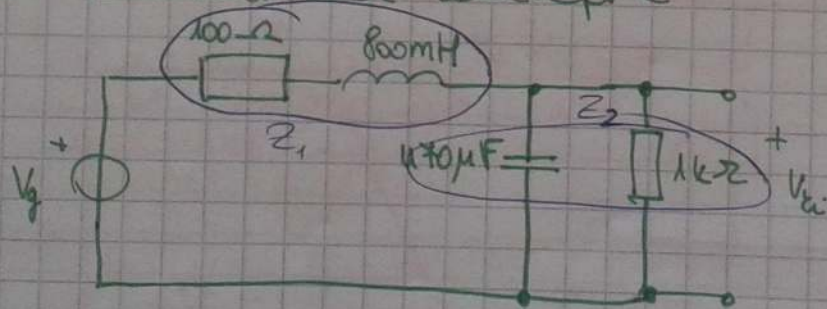
40V indaga di I_2 indaga u-az

Superposisiol

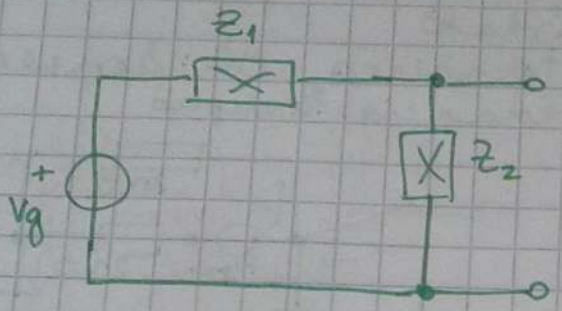
1. sumber tenaga

2. ~~fungsi fasa~~

2) AC allandobuet allapst



$$V_g = 5\sqrt{2} \sin\left(\frac{200t}{\omega} + 60^\circ\right) + 4\sqrt{2} \sin\left(\frac{400t}{\omega} + 60^\circ\right)$$



$$Z_1 = R + j\omega L$$

Induktansi
impedansi

$$Z_2 = \frac{R \cdot \frac{1}{j\omega C}}{R + \frac{1}{j\omega C}}$$

Kapasitansi
impedansi

$$V_{ki} = V_g \cdot \frac{Z_2}{Z_1 + Z_2}$$

$$V_{ki} = V_g \cdot \frac{Z_2}{Z_1 + Z_2}$$

(fenomena tahanan)

$\omega = 200$	$\omega = 400$
$V_g = 5 \angle 60^\circ$	$V_g = 4 \angle 60^\circ$
$Z_1 = 188,68 \angle 58^\circ$	$Z_1 = 335,26 \angle 72,65^\circ$
$Z_2 = 10,64 \angle -90^\circ$	$Z_2 = 5,3 \angle -89,7^\circ$
$V_{ki} = 0,3 \angle -86,2^\circ$	$V_{ki} = 0,064 \angle -102,07^\circ$

$$V_{ki} = 0,3 \cdot \sqrt{2} \sin(200t - 86,2^\circ) + 0,064 \sqrt{2} \sin(400t - 102,07^\circ)$$

u. aroz leggendet

okt. 17.

Bode diagram