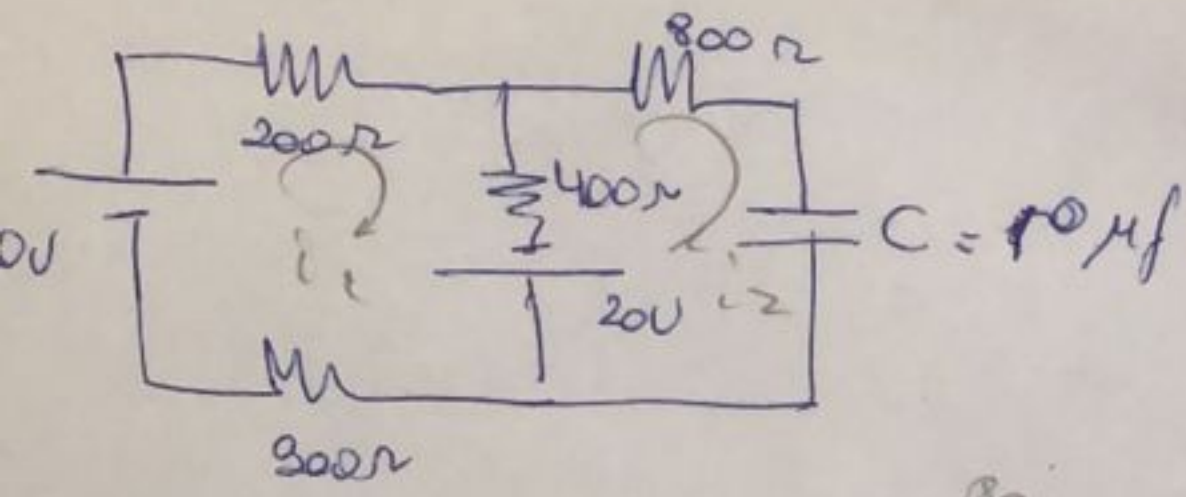
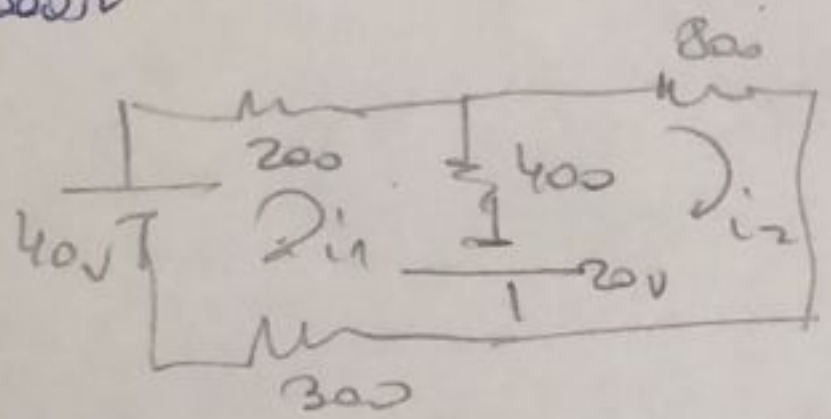


$t=0$



$$\begin{cases} 40 - 200 i_1 - 400(i_1 - i_2) + 20 - 300 i_1 = 0 \\ -800 i_2 - 20 - 400(i_2 - i_1) = 0 \end{cases}$$

$$\begin{cases} 60 - 900 i_1 + 400 i_2 = 0 \\ -20 + 400 i_1 - 1200 i_2 = 0 \end{cases}$$

$$60 = 900 i_1 - 400 i_2$$

$$-20 = 400 i_1 - 1200 i_2$$

$$180 = 2700 i_1 - 1200 i_2$$

$$20 = 400 i_1 - 1200 i_2$$

$$160 = 2300 i_1$$

$$\begin{cases} i_1 = 0,07 A = 70 mA \\ i_2 = 6,6 mA \end{cases}$$

a)

par R_1, R_3	$i_1 = 70 mA$
R_4	$i_2 = 6,6 mA$
R_2	$i_3 = 63,4 mA$

$\xrightarrow{i_1}$ i_2 i_3

$i_1 - i_2 = i_3 = 63,4 mA$

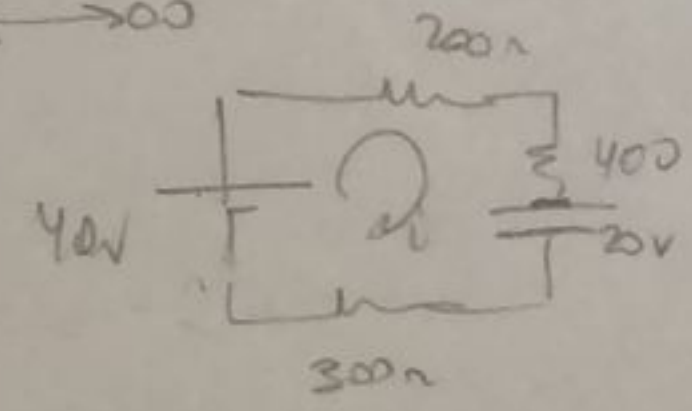
b)

$P_1 = 40V \cdot i_1 = 2,8 W$

$P_2 = 20V \cdot i_3 = 1,268 W$

$P_{R_2} = i_3^2 \cdot R_2 = 1,6 W$

c) $t \to \infty$



$$40 - 200 i_1 - 400 i_1 + 20 - 300 i_1 = 0$$

$$60V - 800 i_1 = 0$$

$$i_1 = 0,075 A = 75 mA$$

$$V_a - 400 i_1 + 20 = V_b$$

$$V_a - V_b = 400 i_1 - 20 = 10V.$$

$$V_C = 10V. \qquad Q = C \cdot V$$

$$Q = 100 \mu C.$$