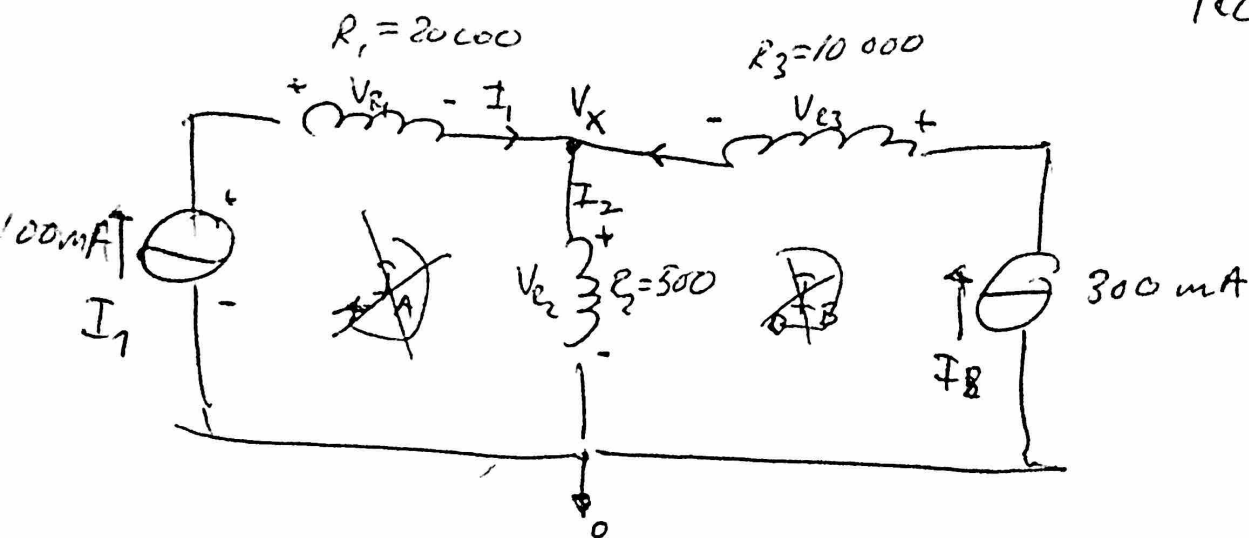


PROBLEM 1.



KCL in V_x $I_1 + I_3 = I_2 \Rightarrow 0,1 + 0,3 = 0,4$

$$V_{R_1} = R_1 \cdot I_1 \Rightarrow V_{R_1} = 20000 \cdot 0,1 \Rightarrow V_{R_1} = 2000 \text{ V}$$

$$V_{R_2} = R_2 \cdot I_2 \Rightarrow V_{R_2} = 500 \cdot 0,4 \Rightarrow V_{R_2} = 200 \text{ V}$$

$$V_{R_3} = R_3 \cdot I_3 \Rightarrow V_{R_3} = 10000 \cdot 0,3 \Rightarrow V_{R_3} = 3000 \text{ V}$$

$$P_1 = V_{R_1} \cdot I_1 \Rightarrow P_1 = 2000 \cdot 0,1 \Rightarrow P_1 = 200 \text{ W}$$

$$P_2 = V_{R_2} \cdot I_2 \Rightarrow P_2 = 200 \cdot 0,4 \Rightarrow P_2 = 80 \text{ W}$$

$$P_3 = V_{R_3} \cdot I_3 \Rightarrow P_3 = 3000 \cdot 0,3 \Rightarrow P_3 = 900 \text{ W}$$

$$P_1 + P_2 + P_3 = 1180 \text{ W}$$

POWER \times TIME = ENERGY (Joules)

$$1180 \cdot 3600 = 4,2 \text{ MJ (4248000)}$$