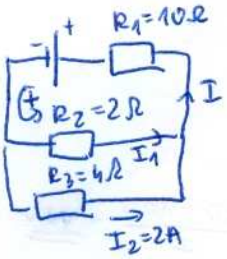
6)

11/K3

C




1) ~~$U+R_1I_1+R_3I=0$~~ $\quad IR_1+U+I_1R_2=0$

2) ~~$U+R_2I_2+IR_3=0$~~ ~~$U=-R_2I$~~ $\quad R_3I_2-R_2I_1=0$

3) $I_1+I_2=I$ $\quad I_1=I_2\frac{R_3}{R_2}$

1) $(I_1+I_2)R_1+U+I_1R_2=0$

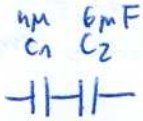
$$\left(1+\frac{R_3}{R_2}\right)I_2R_1+I_2\frac{R_3}{R_2}R_2=-U=I_2\left(R_1+\frac{R_1R_3}{R_2}+\frac{R_3R_2}{R_2}\right)=$$

$=68\,V$ $\quad U=-68\,V$ (valójában a másik irányba folyik az áram)

7)

n17.26

A



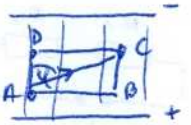

$$Q=C_{ki}\cdot U=\frac{C_1C_2}{C_1+C_2}\cdot U=9{,}6\cdot10^{-4}C$$

$U=400V$

8)

17.7.

B




$AD=BC=1cm=10^{-2}m$

$E=1000\frac{N}{C}$

$Q=5\cdot10^{-5}C$

$$W_{AC}=F\cdot AC\cdot\cos\varphi=E\cdot Q\cdot\underbrace{AC\cdot\cos\varphi}_{AD}=5\cdot10^{-4}J$$

9)

17.24.

C

kitalálni:

$$Q\cdot U=\frac{1}{2}mv^2$$

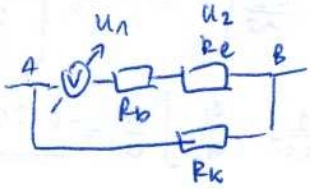
$Q=10^{-6}C$ $\quad U=500V$ $\quad m=10^{-5}g=10^{-8}kg$

$$v=\sqrt{\frac{2QU}{m}}=316{,}23\,\frac{m}{s}$$

10)

18.16.

C




$R_b=400\Omega$

$U_{1max}=5V$

$R_e=20k\Omega$

$$I_1=I_2\Rightarrow\frac{U_1}{R_b}=\frac{U_2}{R_e}$$

$$U_2=\frac{R_e}{R_b}\cdot U_1$$

$$U_{AB}=U_1+U_2=\frac{R_b+R_e}{R_b}U_1=25V$$

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Megoldókulcs: I I H I H H H H II

nll: a c a d c c a b c c

nfo: a c a d b c a b c c