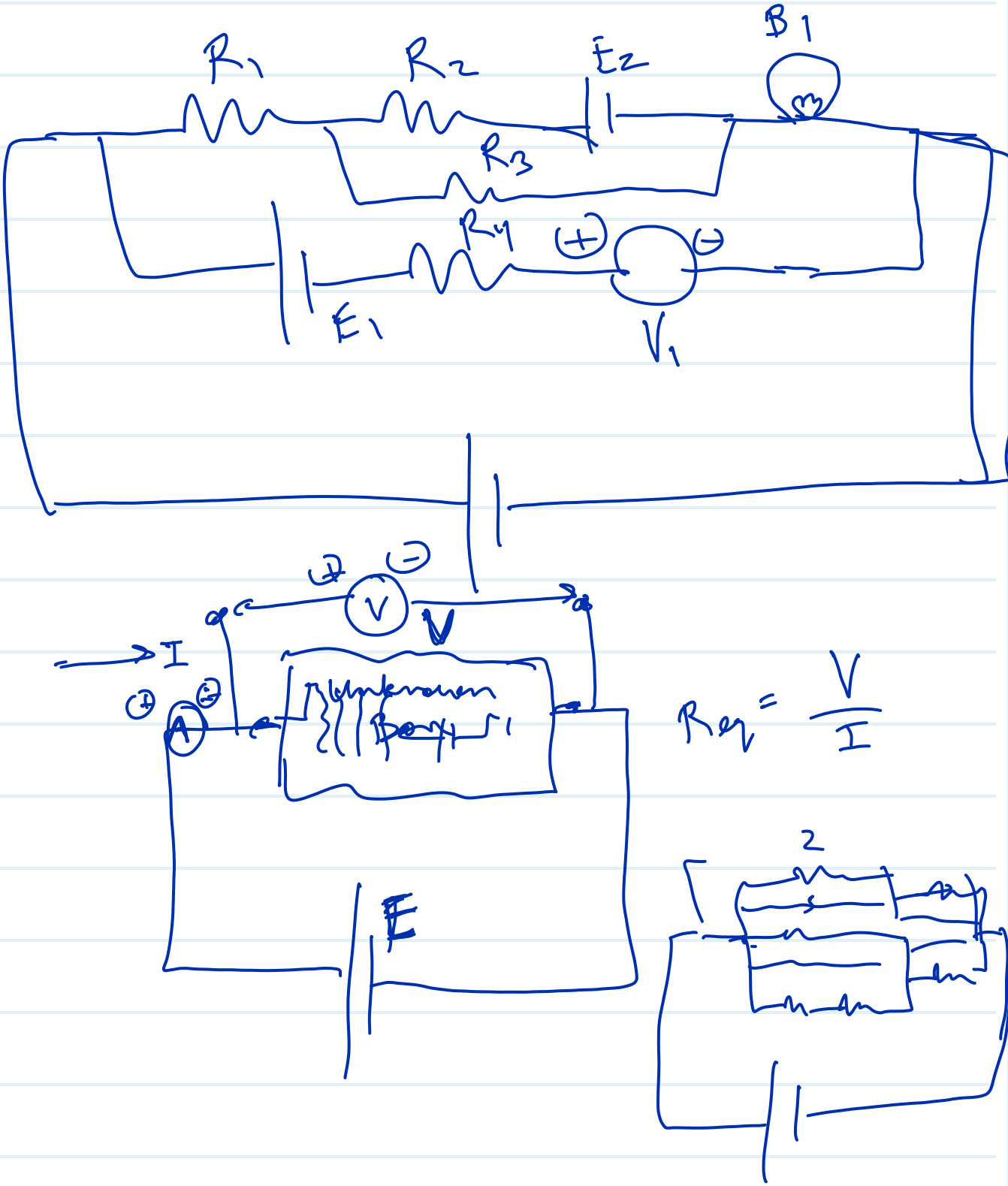
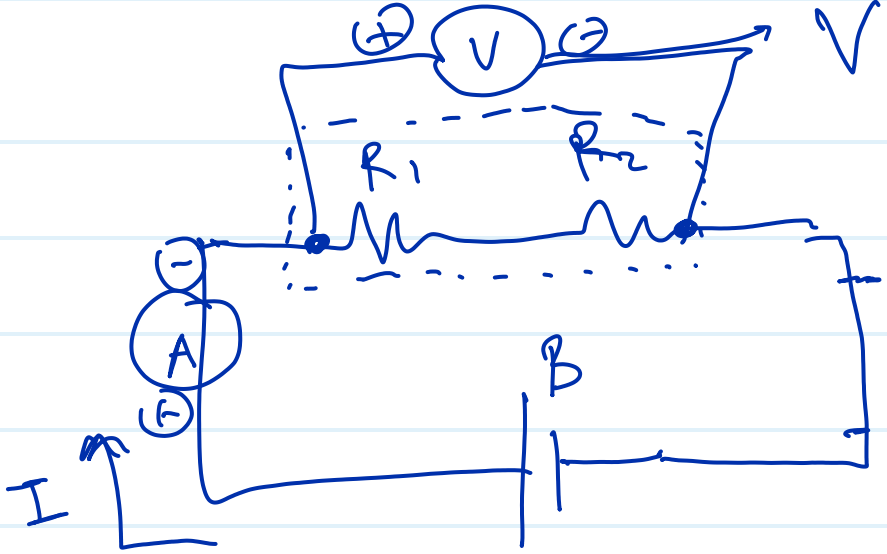


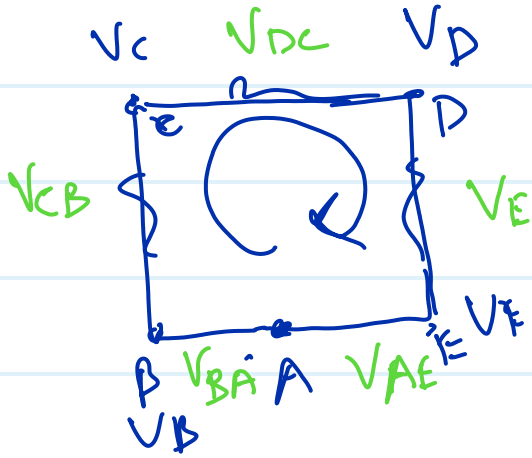
$$R_{eq} = \frac{V}{I}$$



$R_{eq} = \frac{V}{I}$ → B

$= R_1 + R_2$

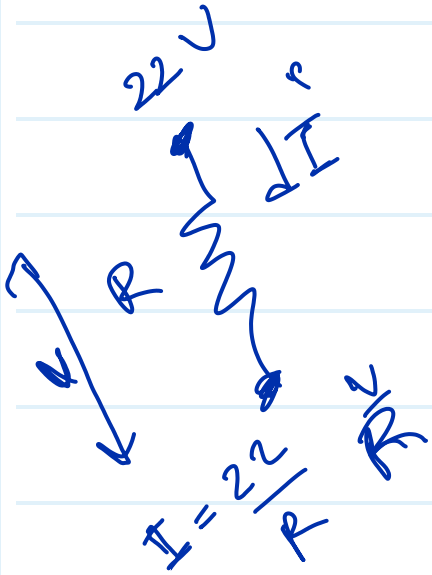
KVL Kirchoff's Voltage Law

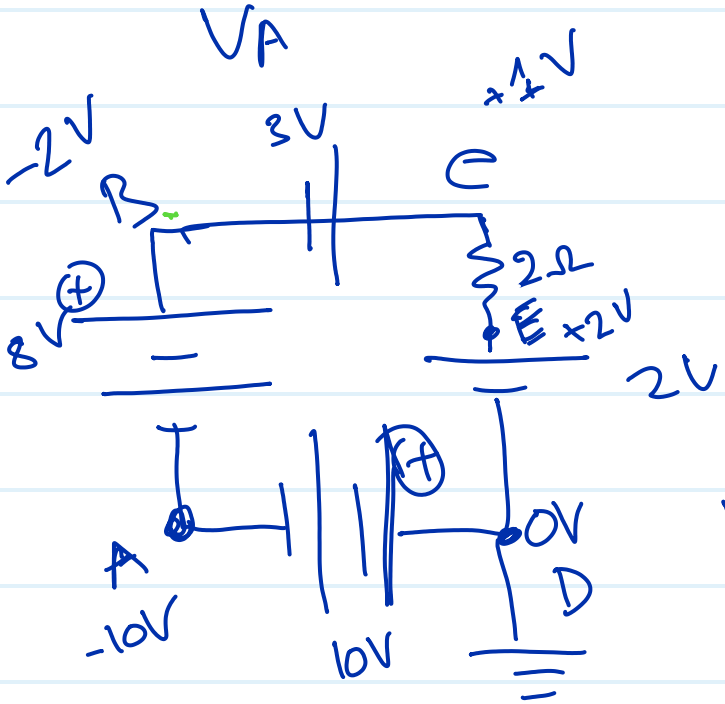


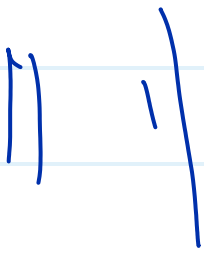
KVL:

$V_{BA} + V_{CB} + V_{DC} + V_{ED} + V_{AE} = 0$

VA







$V_A + 8 = V_B$

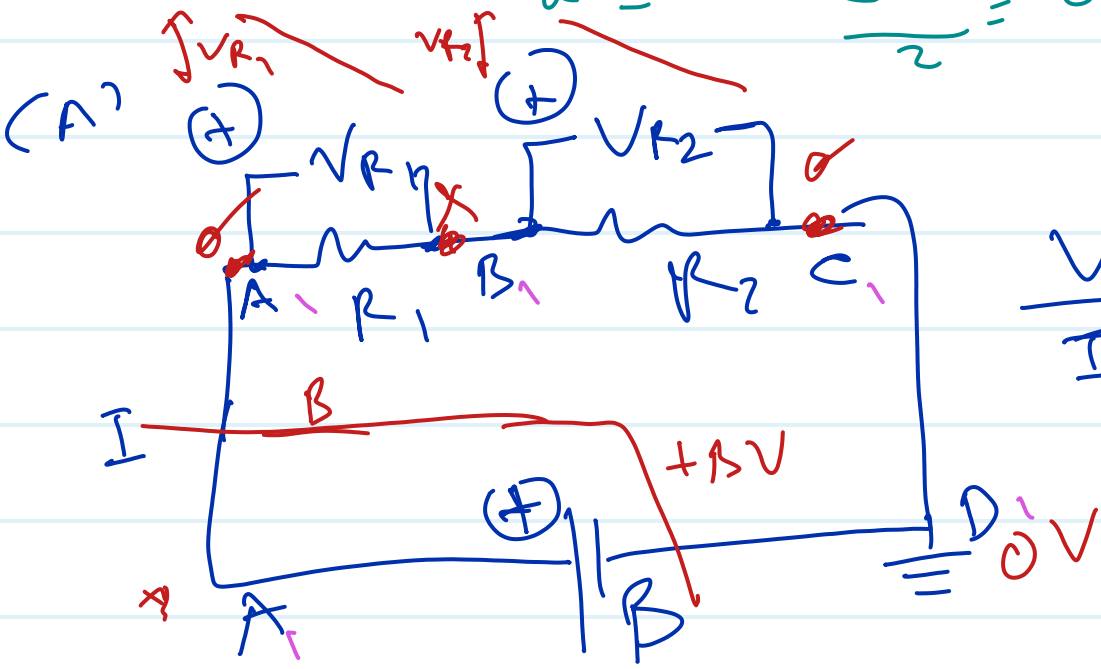
$V_B + 2 = V_E$

$V_E = 2V$

$I = \frac{V_C}{R}$? $\frac{V_E}{R}$?

$I = \frac{V_{EC} = V_E - V_C}{2}$ $\frac{V_{EC}}{R}$?

$\therefore I = \frac{2-1}{2} = 0.5\,A$



$\frac{V}{I} =$

$V_{R_1} = R_{eq}$?

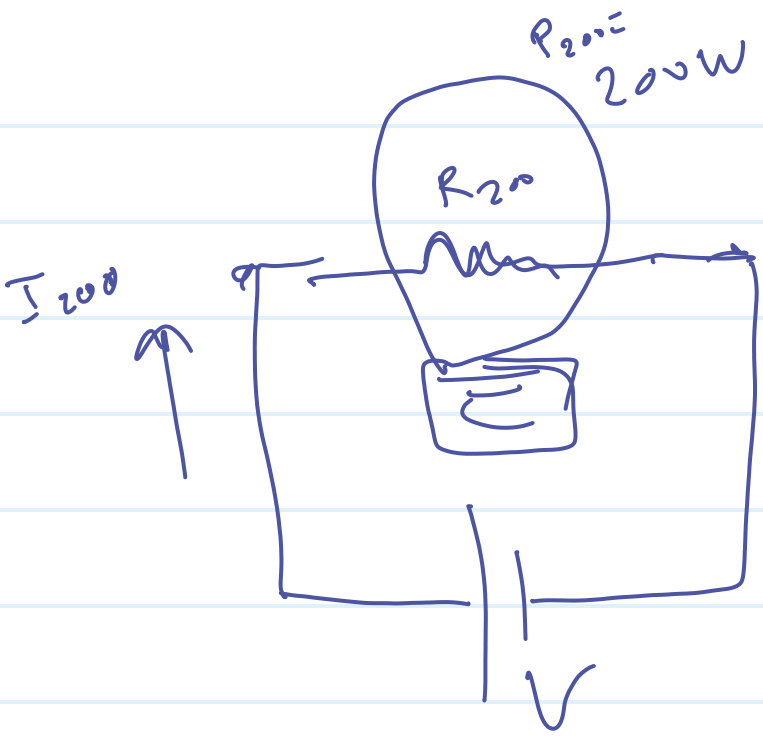
$\frac{V_{R_1}}{I} = R_1$

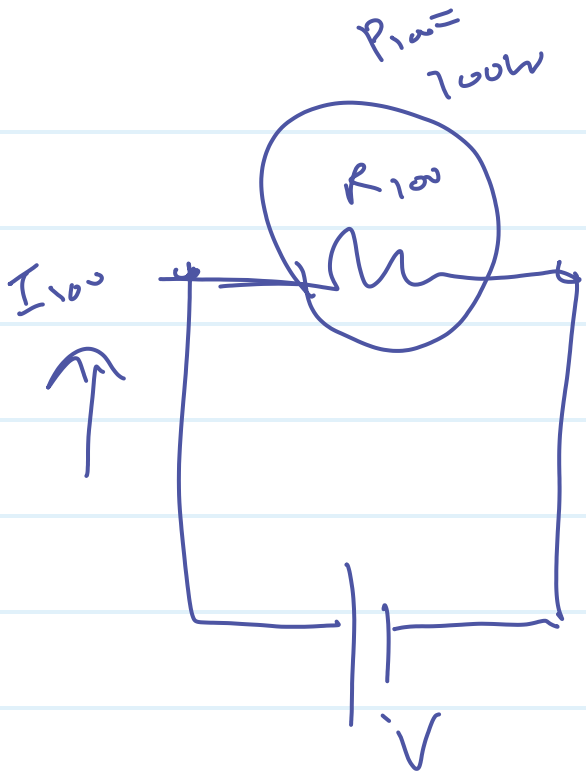
$\therefore$

KVL: $B - V_{R_1} - V_{R_2} = 0$

KVL $\boxed{(+B) + (-V_{R_1}) + (-V_{R_2}) = 0}$

(C) $\frac{V_{R_1} + V_{R_2}}{I}$





$P_{200} = V I_{200}$

$= \frac{V^2}{R_{200}}$

P_{200}

$R_{200} = \frac{V^2}{P_{200}}$

$P_{100} = V I_{100}$

$P_{100} = \frac{V^2}{R_{100}}$

$R_{200} = \frac{V^2}{P_{100}}$

$R_{200} < R_{100}$

0.5×

(F)

P_{200}

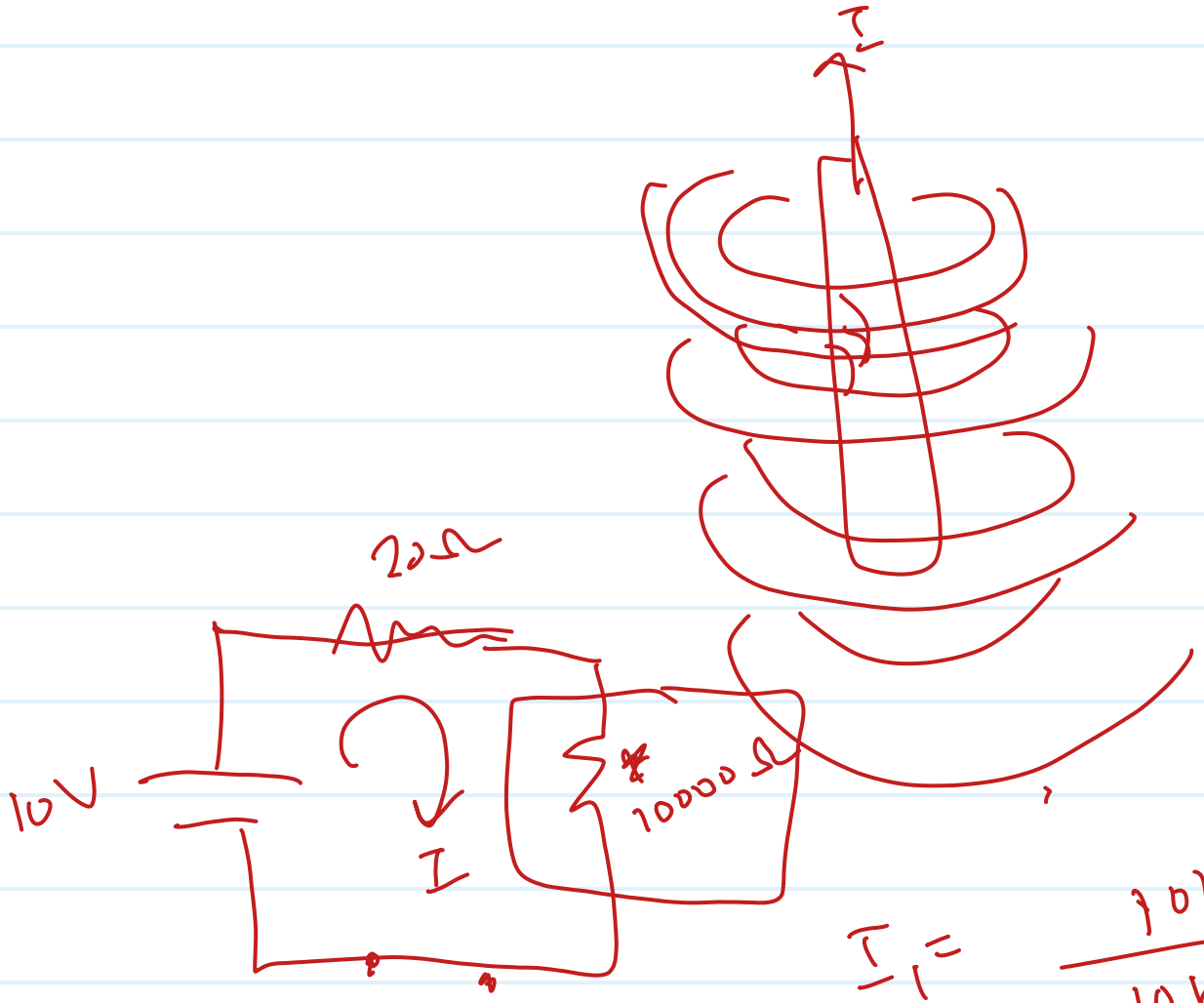
$I^2 R_{200}$

$= 200$

P_{100}

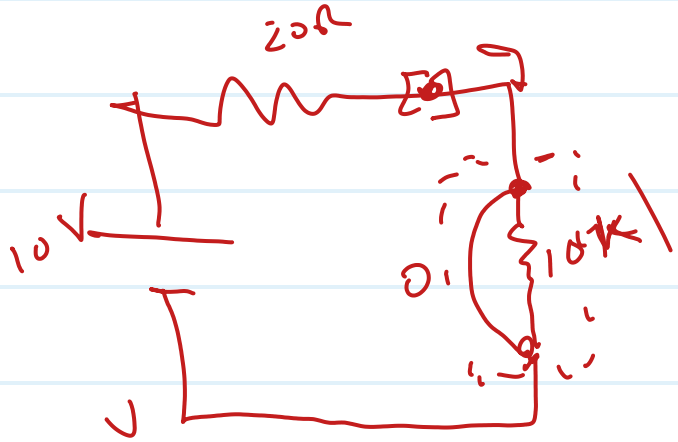
$I^2 R_{100}$

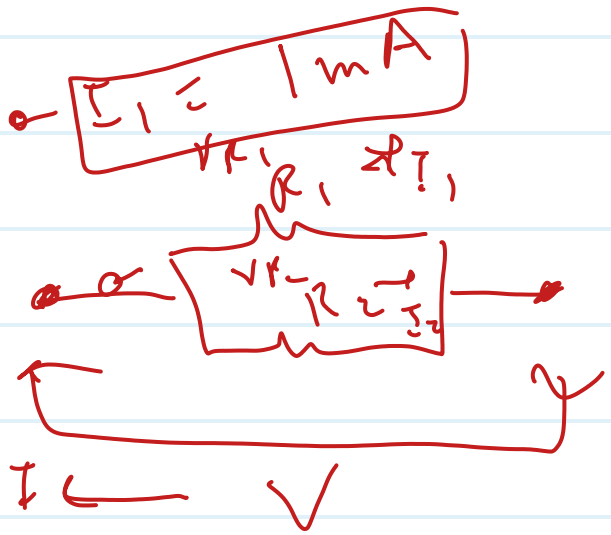
$= 100$



$$I_1 = \frac{10V}{10K}$$

$I_1 = 1mA$



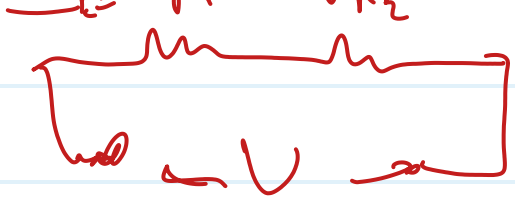


$$I_2 = \frac{10V}{20\Omega + R_2}$$

$I_2 = 0.5A$

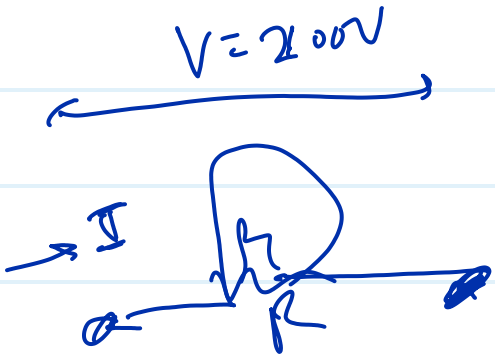
$$\frac{1}{R} = \frac{1}{10K} + \frac{1}{h}$$

$$R = \frac{(10K)\cdot(h)}{10K + h}$$



$$\cdot\ R = \frac{(10R)(h)}{(10R)} = h$$

5.



$$P = VI$$

$$\cdot\ P = \frac{V^2}{R}$$

$$\cdot\ R = \frac{V^2}{P}$$

$$\cdot\ R = \frac{200^2}{10}$$

$$= \boxed{R = 400\Omega}$$

$$6\,CO_2 + 12\,H_2O \xrightarrow{h\nu} C_6H_{12}O_6 + 6\,O_2$$

chlorophyll

$$x\,Zn(NO_3)_2 \longrightarrow x\,ZnO + 2x\,NO_2 + \frac{3x}{2}\,O_2$$

$$x = \frac{1}{3}$$

$$\frac{1}{3}\,Zn(NO_3)_2 \longrightarrow \frac{1}{3}\,ZnO + \frac{2}{3}\,NO_2 + \frac{3}{2}\,O_2$$

$$x = \frac{1}{3} \quad y = x = \frac{1}{3} \quad z = 2x = \frac{2}{3}$$

$$Zn(NO_3)_2 \longrightarrow ZnO + 2\,NO_2 + 3\,O_2$$

$6n$ n $2n$ $4n$

$$n\,Zn(NO_3)_2 \longrightarrow n\,ZnO + NO_2 + \frac{1}{2}n\,O_2$$

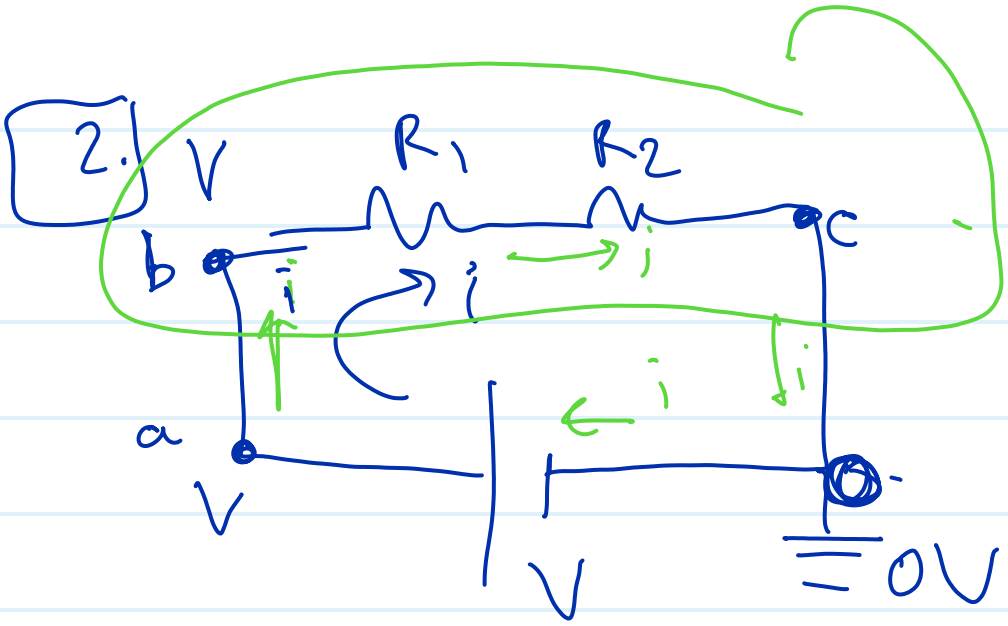
$n=2$

$$2\,Zn(NO_3)_2 \longrightarrow 2ZnO + 4NO_2 + 1O_2$$

$$\boxed{2\,Zn(NO_3)_2 \longrightarrow 2\,ZnO + 4\,NO_2 + O_2}$$

$x=2 \quad y=2 \quad z=4$

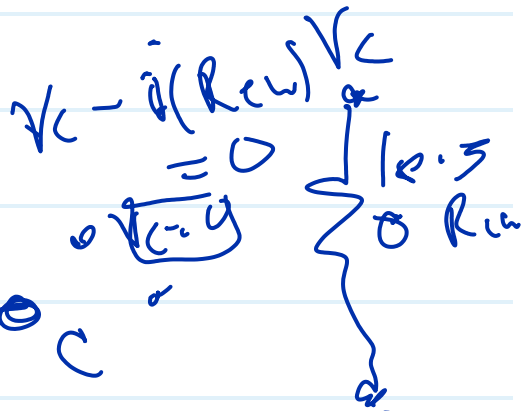
2.

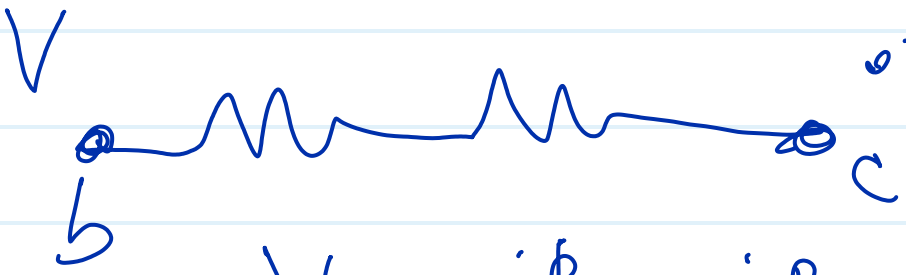


KVL: $V_a - i \times R_{cw} = V_b$

$V - i \times 0 = V_b$

$V_b = V$



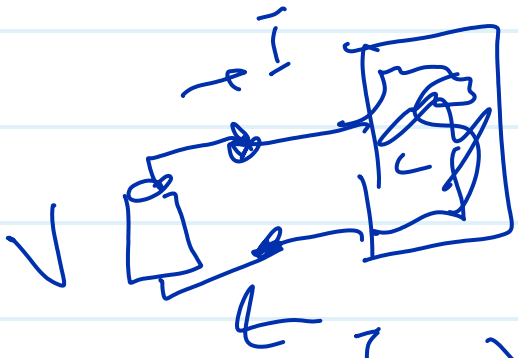


$V_b - iR_1 - iR_2 = V_c$

$V - i(R_1 + R_2) = 0$

$i = \frac{V}{R_1 + R_2}$

$R_{eq} = ?$

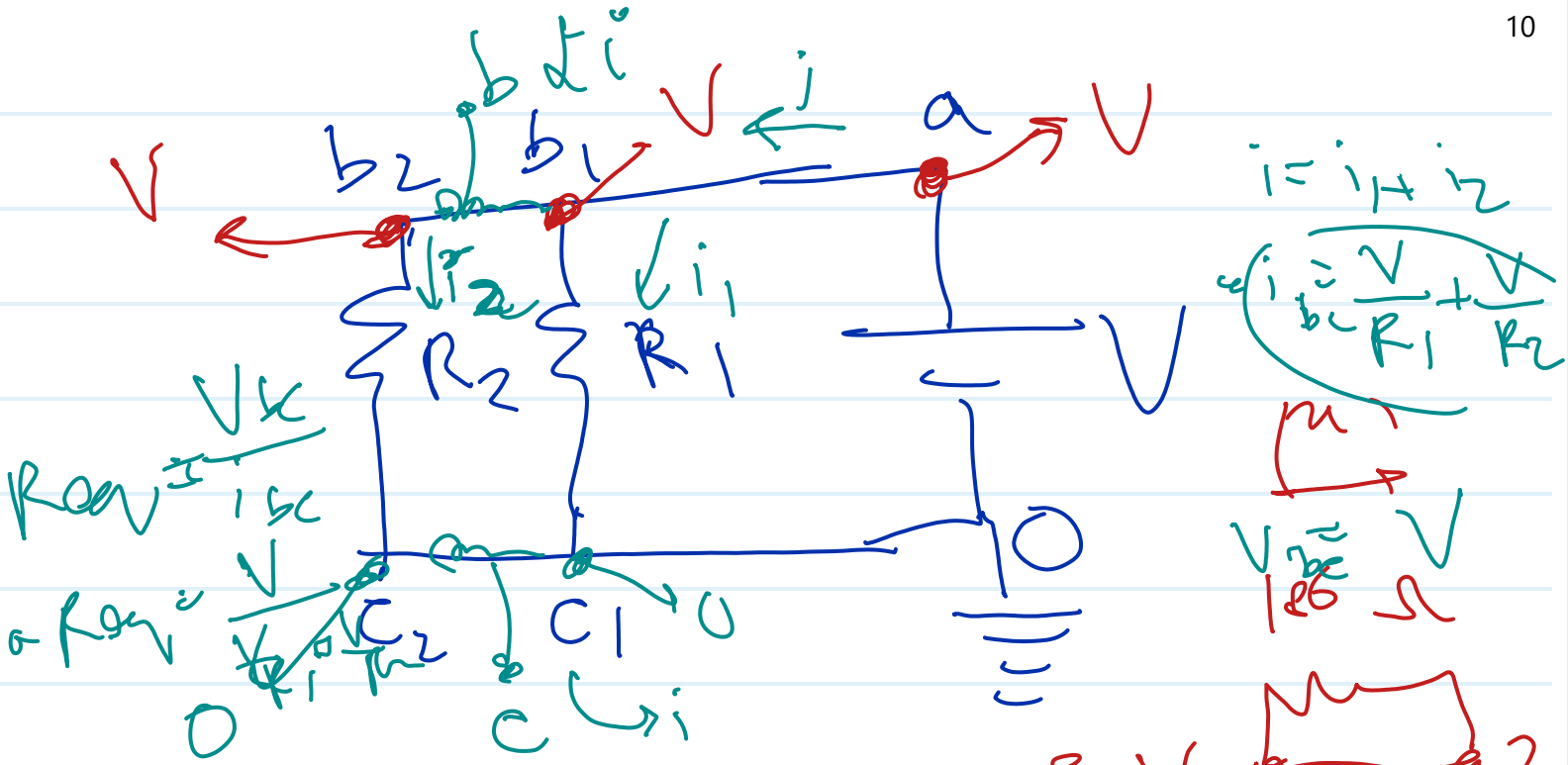


$R_{eq} = \frac{V_{bc}}{I_{bc}}$ $\quad R_{eq} = \frac{V}{I}$

$R_{eq} = \frac{V_b - V_c}{I_{bc}}$

$R_{eq} = \frac{V}{\frac{V}{R_1 + R_2}}$

$R_{eq} = R_1 + R_2$



$i = i_1 + i_2$

$i = \frac{V}{R_1} + \frac{V}{R_2}$

$V_{bc} = V$

$V_{kl} = V$

$V_{b1} - i_1 \cdot R_1 = V_{c1}$

$V - i_1 \cdot R_1 = V_{el} = 0$

$i_1 = \frac{V}{R_1}$ $\quad$ $i_2 = \frac{V}{R_2}$

$V_k - I_{cw} R_{cw}$

$V_l = V - 100 \times (1k-6)$

$V_l = V - 1k-4$

$V_l = V$

$n = 1k-10$

100 A

V

1kΩ

?

$R_{eq} = \frac{1}{\frac{1}{R_1} + \frac{1}{R_2}}$

$(100-n)$

$1k6 \times n = (100-n)(1k-6)$

$\frac{1}{R_m} = \frac{1}{R_1} + \frac{1}{R_2}$

$\times 1kG$

$(1k12)n = (100-n)$

$n(1k12 + 1) = 100$

$n = \frac{100}{1k12 + 1}$

$n \approx \frac{100}{1k12}$

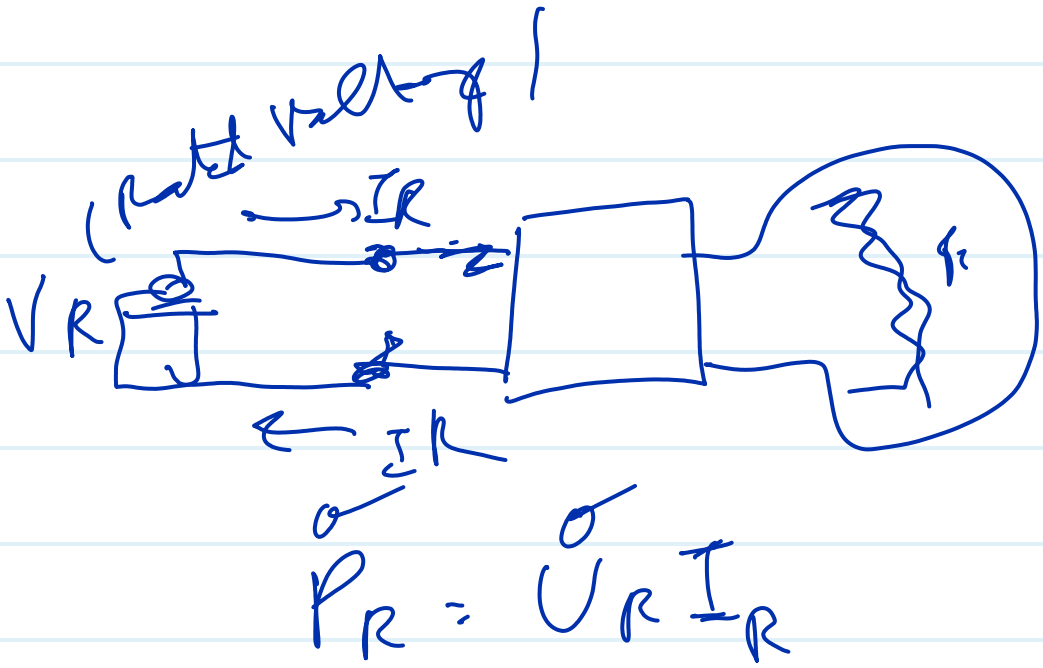
and $100 - n = \dfrac{100 \cdot (1 \text{k}\Omega + 1)}{1 \text{k}\Omega + 1} \to 100$

$\Rightarrow 100 - n = \dfrac{100 \cdot (1 \text{k}\Omega)}{(1 \text{k}\Omega + 1)}$

$\Rightarrow \boxed{I_{CN} = 100}$

$$\frac{1.6 \times 10^{-19} \text{C} \times n \ [\text{Coulomb}]}{16 \ [\text{s}]} = 1 \text{(A)}$$

$n = 1 \times 10^{20}$



$$P_R = U_R I_R$$

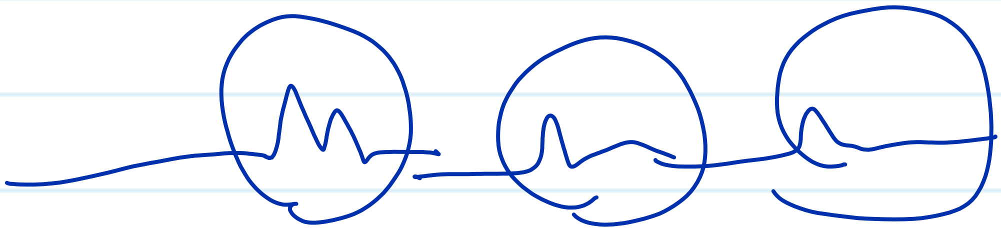
$$P_R = \frac{U_R^2}{R} = V_R \cdot \left(\frac{V_R}{I_R}\right)$$

$$\text{or } P_R = \frac{V_R^2}{R}$$

$$R = \frac{V_R^2}{P_R} \qquad P_i = \frac{V_{Ri}^2}{R_i}$$

Low, Giv Hoi W

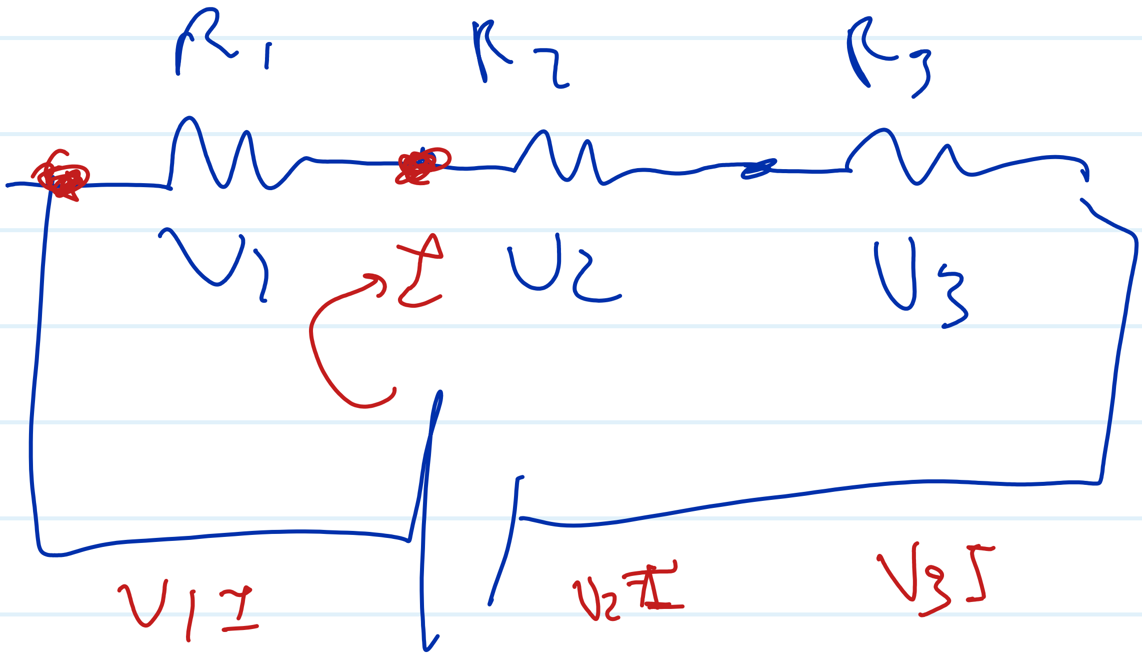
↑ ↑ or



220 ⟶

220

$P_1 = \frac{V_1^2}{R_1}$ $P_2 = \frac{V_2^2}{R_2}$ $P_3 = \frac{V_3^2}{R_3}$



$V = V_1 + V_2 + V_3$

IR_1 IR_2 IR_3