$$q = q_0 e^{-t/\tau}$$

$$\tau = RC$$

$$I = \frac{dq}{dt} = -\frac{q_0}{\tau} e^{-t/\tau}$$

$$C = \frac{q}{V} \Rightarrow V = \frac{q}{C}$$

$$V = -\frac{q_0}{C} e^{-t/\tau}$$

$$V = \mathcal{E}(1 - e^{-t/\tau})$$

$$q = CV$$

$$I = dq/dt$$

$$U = qV$$

$$P = \frac{dU}{dt} = IV = I^2 R = \frac{V^2}{R}$$

$$Q = Q_0 e^{-t/\tau}$$

$$\tau = RC$$

$$I = \frac{dQ}{dt} = -\frac{Q_0}{\tau} e^{-t/\tau}$$

$$C = \frac{Q}{V} \Rightarrow V = \frac{Q}{C}$$

$$V = -\frac{Q_0}{C} e^{-t/\tau}$$

$$V = \mathcal{E}(1 - e^{-t/RC})$$

$$Q = CV$$

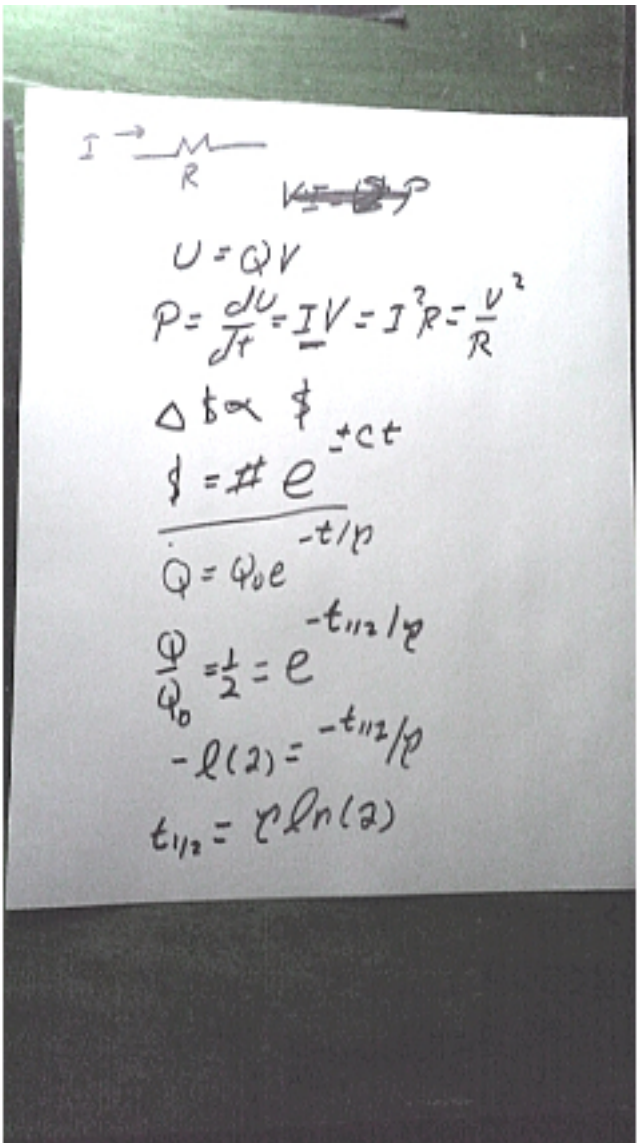
$$I = dQ/dt$$

$$U = QV$$

$$P = \frac{dU}{dt} = IV = I^2 R = \frac{V^2}{R}$$

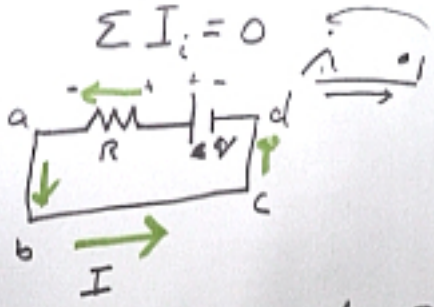
$$\Delta \phi \propto \phi$$

$$\phi = \phi_0 e^{-kt}$$


I
R
U = QV
P = dU/dt = IV = I²R = V²/R
Δt ∝ $
$ = # e^{±ct}
Q = Q₀ e^{-t/p}
Q/Q₀ = 1/2 = e^{-t1/2/p}
-ln(2) = -t1/2/p
t1/2 = p ln(2)

$\Sigma V_i = 0$

$\Sigma I_i = 0$



$-\rightarrow +$ $+V$ in Idir: $-IR$

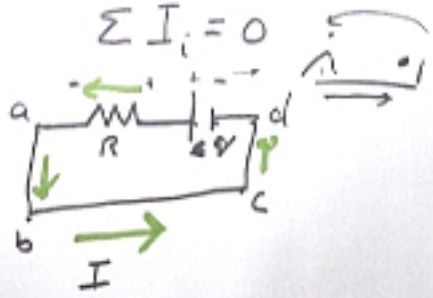
$+\rightarrow -$ $-V$ in opposite dir of I: $+IR$

$+V - IR = 0$ $V = IR$

$I = \frac{V}{R}$

$\Sigma V_i = 0$

$\Sigma I_i = 0$



$-\rightarrow +$ $+V$ in Idir: $-IR$

$+\rightarrow -$ $-V$ in opposite dir of I: $+IR$

$+V - IR = 0$ $V = IR$

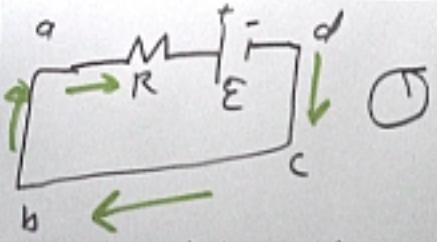
$I = \frac{V}{R}$

$-\rightarrow +$ $+V$ in I dir: $-IR$

$+\leftarrow -$ $-V$ in opposite dir of I: $+IR$

$+V - IR = 0$ $\quad V = IR$

$I = \frac{V}{R}$



(abcda) $\Sigma V = 0 + 0 +$

$+\mathcal{E} + IR = 0$

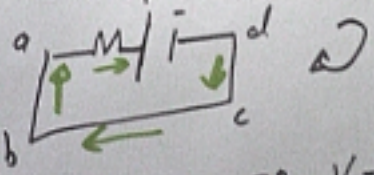
$\mathcal{E} + IR = 0 \Rightarrow I = -\frac{\mathcal{E}}{R}$

$\rightarrow$

$\mathcal{E} + IR = 0 \Rightarrow I = -\frac{\mathcal{E}}{R}$

$(abcda) = +IR - V = 0$

$I = \frac{V}{R}$



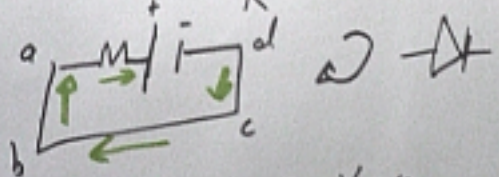
$(adcba): -IR - V = 0$

$I = -\frac{V}{R}$

$\mathcal{E} + IR = 0 \Rightarrow I = -\frac{\mathcal{E}}{R}$

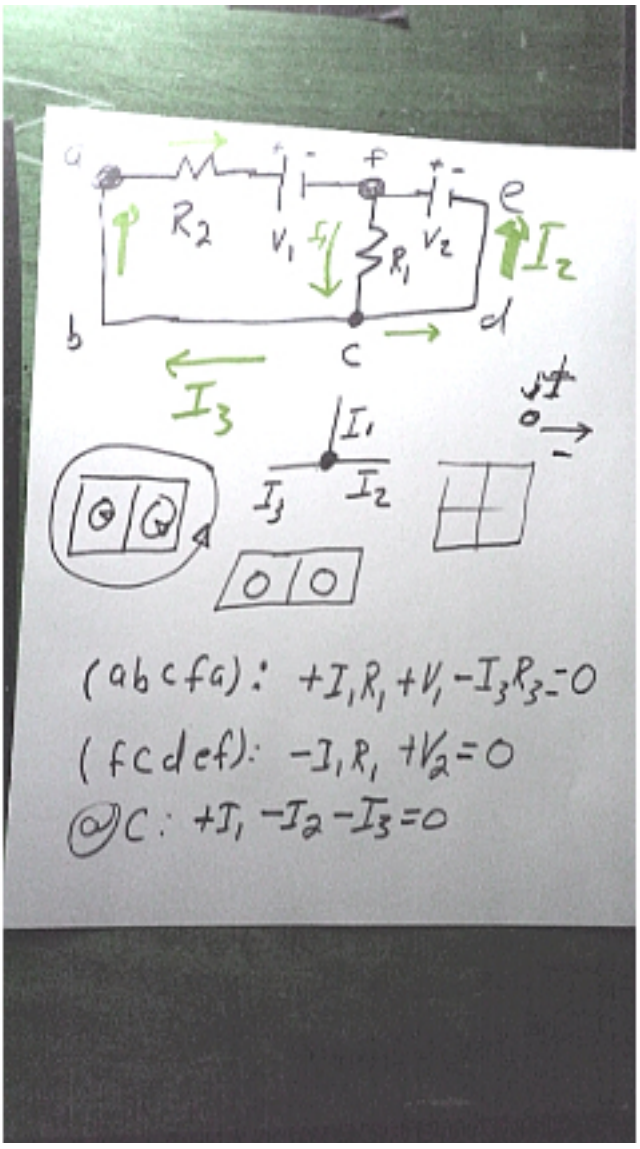
$(abcda) = +IR - V = 0$

$I = \frac{V}{R}$



$(adcba): -IR - V = 0$

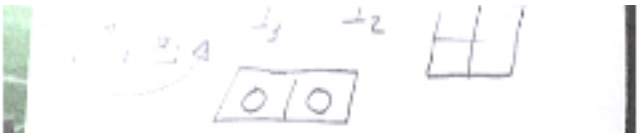
$I = -\frac{V}{R}$



$(abcfa)$: $+I_1R_1 + V_1 - I_3R_3 = 0$

$(fcdef)$: $-I_1R_1 + V_2 = 0$

@C: $+I_1 - I_2 - I_3 = 0$



(abcfa): $+I_1R_1 + V_1 - I_3R_3 = 0$

(fcdef): $-I_1R_1 + V_2 = 0$

@C: $+I_1 - I_2 - I_3 = 0$

$-I_1R_1 = -V_2 \Rightarrow I_1 = \frac{V_2}{R_1}$

$\frac{V_2}{R_1}R_1 + V_1 - I_3R_3 = 0$

$V_2 + V_1 = I_3R_3$

$I_3 = \frac{V_2+V_1}{R_3}$

$I_2 = \frac{V_2}{R_1} - \frac{(V_2+V_1)}{R_3}$

$P = I_1^2R_1 + I_3^2R_2$