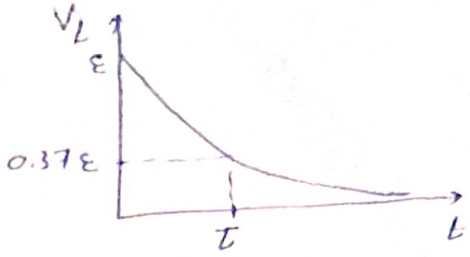
→ at $t = \frac{L}{R}$ → $V_L = \varepsilon e^{-1}$

$= 0.37\varepsilon$



$\tau = \frac{L}{R}$: time const.

for RL-circuit

* Voltage across Resistor :

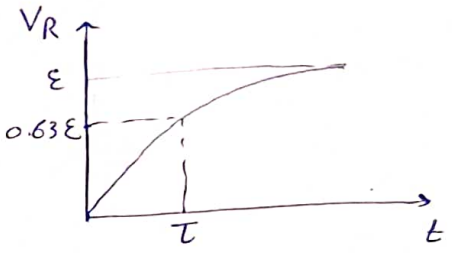
$V_R = IR = \varepsilon(1 - e^{-\frac{Rt}{L}})$

* at $t = 0$ → $V_R = 0$

* at $t = \infty$ → $V_R = \varepsilon$

→ at $t = \frac{L}{R}$ ⇒ $V_R = \varepsilon(1 - e^{-1})$

$= 0.63\varepsilon$



$\tau = \frac{L}{R}$