

$$V_c(t) = e^{\left(-\frac{t}{RC} + K\right)} = A e^{-t/RC}$$

$$t=0 \rightarrow V_c(0) = A = V$$

$$V_c(t) = V e^{-t/RC}$$

$$\left. \begin{array}{l} V = 1 \text{ Volt} \\ a = 1/RC \end{array} \right\} V_c(t) = e^{-at}$$

$$\int_0^\infty e^{-at} = \frac{1}{s+a}$$

* Latihan: $x(t) = 1 - e^{-at}, t \geq 0$

$\Rightarrow$ Bagaimana bentuk $x(t)$?

$\Rightarrow$ tentukan $X(s) = \mathcal{L}\{x(t)\}$!

$$\mathcal{L}\{x(t)\} = \mathcal{L}\{1 - e^{-at}\} = \frac{1}{s} - \frac{1}{s+a} = \frac{a}{s(s+a)}$$

$$\mathcal{L}^{-1}\left\{\frac{1}{s(s+a)}\right\} = \frac{1}{a}(1 - e^{-at})$$

