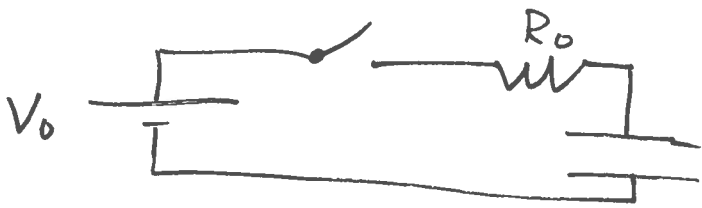


21- RC decay: This quiz consists of only one question, repeated 4 times, so that there is ~~not~~ no testbank (except for versions A-B-C). It is an exercise in using the calculator's scientific notation, and also in knowing metric prefixes: $m = 10^{-3}$ $k = 10^3$ $\mu = 10^{-6}$ and $M = 10^6$. (milli, kilo, micro, mega)

As discussed on Wikiversity, the "physics" involves closing this circuit at $t=0$;

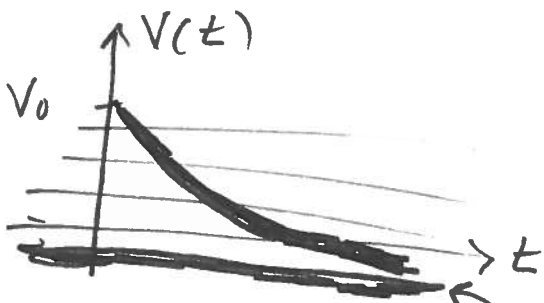


} Subscript-0 means constant w.r.t. time.

For $t > 0$

$$V = V_0 e^{-t/\tau}$$

where $\tau = RC$



$$V(t = n\tau) = e^{-n} V_0$$

Example: $n = 3$

$$R = 628 \text{ k}\Omega = 628 \times 10^3$$

$$C = 621 \text{ mF} = 621 \times 10^{-3}$$

$$\tau = (628 \text{ E}3)(621 \text{ E}-3)(3) = 1.17 \text{ E}6 \text{ sec.}$$