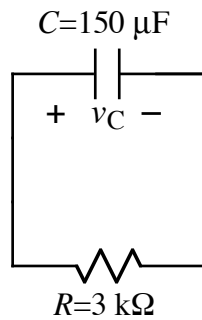


Ex: Find the voltage, v_C , across the capacitor in the circuit below for $t > 0$ if $v_C(t = 0) = 100 \mu\text{V}$.



SOL'N: The form of solution is an exponential.

$$v_C(t) = Ae^{-t/RC}$$

The value of the constant, A , is chosen to match the initial voltage on C , since the exponential has a value of unity at $t = 0$: $e^0 = 1$.

$$v_C(t) = 100 \mu\text{V} \cdot e^{-t/450\text{ms}}$$