

Chapter 7, Solution 4.

For $t < 0$, $v(0^-) = 40$ V.

For $t > 0$, we have a source-free RC circuit.

$$\tau = RC = 2 \times 10^3 \times 10 \times 10^{-6} = 0.02$$

$$v(t) = v(0)e^{-t/\tau} = \underline{40e^{-50t} \text{ V}}$$