

81. Using Eq. 31-43

$$i = \frac{\mathcal{E}}{R} \left(1 - e^{-t/\tau_L} \right)$$

where $\tau_L = 2.0$ ns, we find

$$t = \tau_L \ln \left(\frac{1}{1 - \frac{iR}{\mathcal{E}}} \right) \approx 1.0 \text{ ns} .$$