

Chapter 6, Solution 66.

If $v=i$, then

$$i = L \frac{di}{dt} \longrightarrow \frac{dt}{L} = \frac{di}{i}$$

Integrating this gives

$$\frac{t}{L} = \ln(i) - \ln(C_o) = \ln\left(\frac{i}{C_o}\right) \rightarrow i = C_o e^{t/L}$$

$$i(0) = 2 = C_o$$

$$i(t) = 2e^{t/0.02} = 2e^{50t} \text{ A.}$$