Chapter 7, Solution 91.

$$i_o(0) = \frac{12}{50} = 240 \text{ mA}, \quad i(\infty) = 0$$

$$i(t) = i(\infty) + \left[i(0) - i(\infty) \right] e^{-t/\tau}$$

$$i(t) = 240\, e^{-t/\tau}$$

$$\tau = \frac{L}{R} = \frac{2}{R}$$

$$i(t_0) = 10 = 240\, e^{-t_0/\tau}$$

$$e^{t_0/\tau} = 24 \longrightarrow t_0 = \tau \ln(24)$$

$$\tau = \frac{t_0}{\ln(24)} = \frac{5}{\ln(24)} = 1.573 = \frac{2}{R}$$

$$R = \frac{2}{1.573} = \mathbf{1.271\ \Omega}$$