

Chapter 7, Problem 20.

For the circuit in Fig 7.100,

$$v = 90e^{-50t} \text{ V}$$

and

$$i = 30e^{-50t} \text{ A}, \quad t > 0$$

- (a) Find L and R .
- (b) Determine the time constant.
- (c) Calculate the initial energy in the inductor.
- (d) What fraction of the initial energy is dissipated in 10 ms?

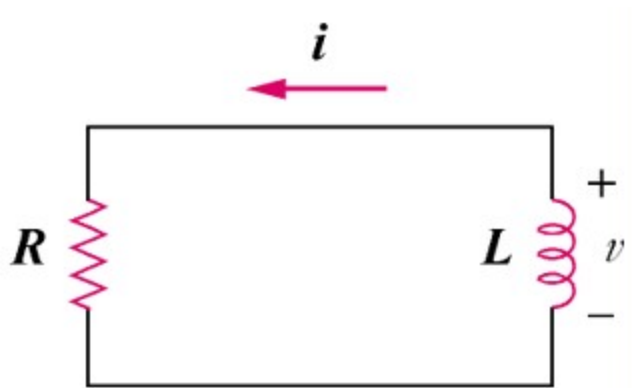


Figure 7.100
For Prob. 7.20.