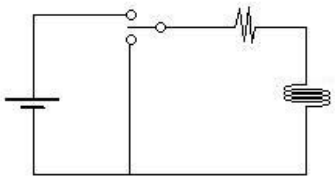
6-5)

Consider an LR circuit with a battery, ε_B. The circuit has been running for a very long time. The battery is removed at t = 0 and the rest of the circuit immediately reconnected. Five milliseconds later, the current is measured to be 0.2 A. If R = 15 Ohms and the *emf* of the battery in 12 V,



A) What is the inductance, L?
B) What is the time constant, τ_L?
C) How long after the switch is thrown will the voltage across the resistor be 4V?