

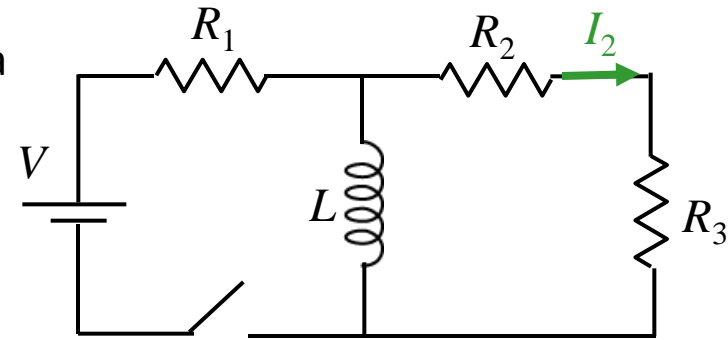
# Follow Up 2



The switch in the circuit shown has been closed for a long time at which point, the switch is opened.

What is  $I_2$ , the current through  $R_2$  immediately after switch is opened ?

(Positive values indicate current flows to the right)



A)  $I_2 = +\frac{V}{R_1 + R_2 + R_3}$

B)  $I_2 = +\frac{V}{R_1}$

C)  $I_2 = 0$

D)  $I_2 = -\frac{V}{R_1}$

E)  $I_2 = -\frac{V}{R_1 + R_2 + R_3}$

Current through inductor immediately **after** switch is opened  
**is the same as**  
the current through inductor immediately **before** switch is opened

Immediately **before** switch is opened:  $I_L = V/R_1$

Immediately **after** switch is opened:  $I_L$  flows in right loop

Therefore,  $I_L = -V/R_1$