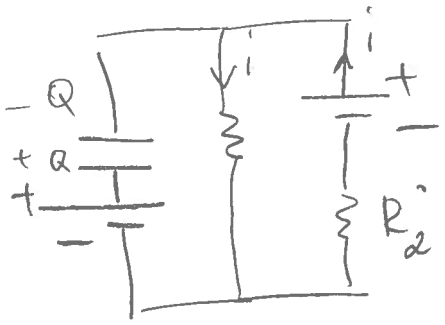
Exam 2 2015

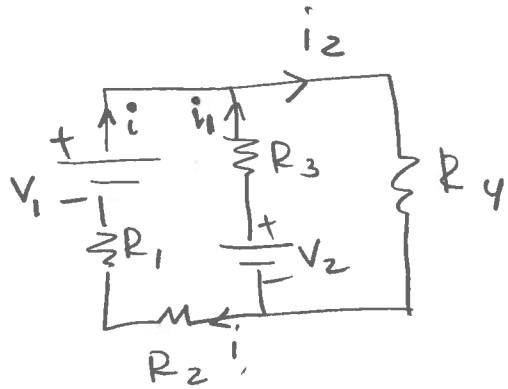
1. $i = \dfrac{V_2}{R_1 + R_2}$



$$Q = C\left(V_1 - V_2 \frac{R_1}{R_1 + R_2}\right)$$

$i = 1\,A$; $Q = 6 \cdot 10^{-6}\,C$

2. $i_1 = 1\,A$; $i = 1\,A$; $i_2 = 2\,A$



3. $V(D) - V(0) = -\left[\dfrac{Q}{4\pi\varepsilon_0 L} + \dfrac{Q}{2\pi\varepsilon_0 L}\ln 2 + \dfrac{Q}{2\pi\varepsilon_0 L}\ln 2\right] =$

$$= -\left[\frac{Q}{4\pi\varepsilon_0 L} + \frac{Q}{\pi L \varepsilon_0}\ln 2\right]$$

4. $i = \dfrac{2aV}{\rho_0 L}$

$$Q = \frac{\varepsilon_0 a V}{2L}$$