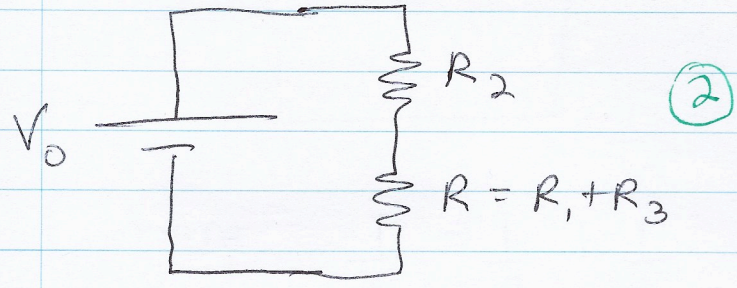
So $\Delta V_{R_2} = \Delta V_{BD} = -iR_2 = \dfrac{V_0 R_2}{R_1+R_2+R_3}$ (1)

so $\Delta V_{R_2} = \dfrac{(12\,V)(5\,k\Omega)}{(4\,k\Omega + 5\,k\Omega + 6\,k\Omega)} = \dfrac{12}{3}\,V = 4\,V$ (1)

(2) Add R_1 and R_3 in series to have

or

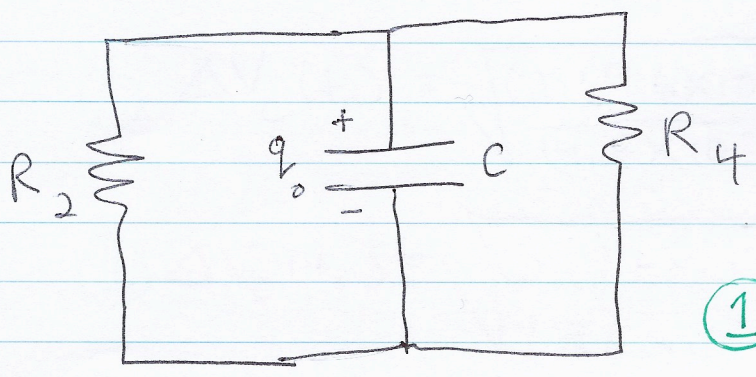


(2)

and use Voltage Division

$$\Delta V_{R_2} = V_0 \frac{R_2}{R+R_2} = V_0 \frac{R_2}{R_1+R_2+R_3} = 4\,V$$ (2) (1)

(b) The idea was that this circuit was supposed to be treated like this. dt $t = t_0$, where t_0 is the instant the S_2 is closed and S_1 is opened.



(1)

$\mathbb{C} = 48\,pF = 4.8 \times 10^{-11}\,F$

$C = 36\,pF = 3.6 \times 10^{-11}\,F$