The capacitor is going to discharge with time constant $\tau = RC$ and so

$$\Delta V_R(t) = \Delta V_C(t) = \Delta V_C(t_0)\, e^{-(t-t_0)/\tau}$$

1

$$\tau = RC = \left(\frac{10}{3} \times 10^3\ \Omega\right)\left(\cancel{4.8}^{\,1.6} \times 10^{-11}\ F\right) = 1.6 \times 10^{-7}\ s = 0.16\ \mu s$$

$$i_{R_2}(t) = \frac{\Delta V_{R_2}(t)}{R_2} = \frac{\Delta V_C(t)}{R_2} = \frac{(20.0\ V)}{(5\ k\Omega)} e^{-(t-t_0)/\tau}$$

1

$$= (4\ mA)\, e^{-(t-t_0)/(0.16\ \mu s)}$$

$$\tau = RC = \left(\frac{10}{3} \times 10^3\ \Omega\right)\left(\cancel{3.6}^{\,1.2} \times 10^{-11}\ F\right) = 1.2 \times 10^{-7}\ s = 0.12\ \mu s$$

1

$$i_{R_2}(t) = \frac{\Delta V_{R_2}(t)}{R_2} = \frac{\Delta V_C(t)}{R_2} = \left(\frac{40}{\sqrt{3}}\ V\right)\left(\frac{1}{5\ k\Omega}\right) e^{-t/\tau}$$

2

$$= \left(\frac{8}{\sqrt{3}}\ mA\right) e^{-(t-t_0)/(0.12\ \mu s)}$$

$$= (4.6\ mA)\, e^{-(t-t_0)/(0.12\ \mu s)}$$