The current through a circuit element is

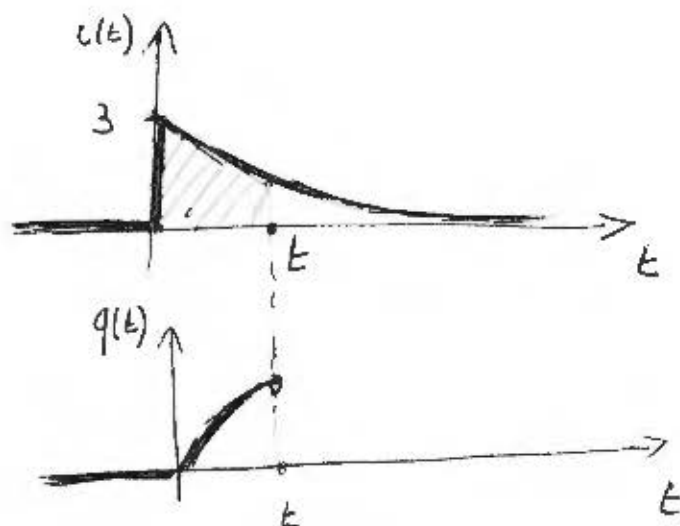$$i(t) = A1 \cdot e^{\frac{t}{A2}} \qquad \text{for } t \geq 0$$
$$= 0 \qquad \text{for } t < 0$$

A1 = 3 A

A2 = -2 s

The total charge that has entered the circuit element can be represented as

$$q(t) = B1 + B2 \cdot e^{\frac{t}{B3}} \qquad \text{for } t \geq 0$$
$$= 0 \qquad \text{for } t < 0$$

at any time t : $q(t)$ is the integral of $i(t)$
up until time t

$$q(t) = \int_{-\infty}^{t} i(u)\,du = \int_{0}^{t} 3 e^{-\frac{u}{2}}\,du$$

$$= 3(-2)\int_{0}^{t} e^{-\frac{u}{2}}\,d\left(\frac{-u}{2}\right) = -6\, e^{-\frac{u}{2}}\Big|_{0}^{t} = -6\left(e^{-\frac{t}{2}} - 1\right)$$

$$\boxed{q(t) = 6 - 6 e^{-\frac{t}{2}}}$$

$$\boxed{\begin{array}{l} B_1 = 6\ C \\ B_2 = -6\ C \\ B_3 = -2\ s \end{array}}$$