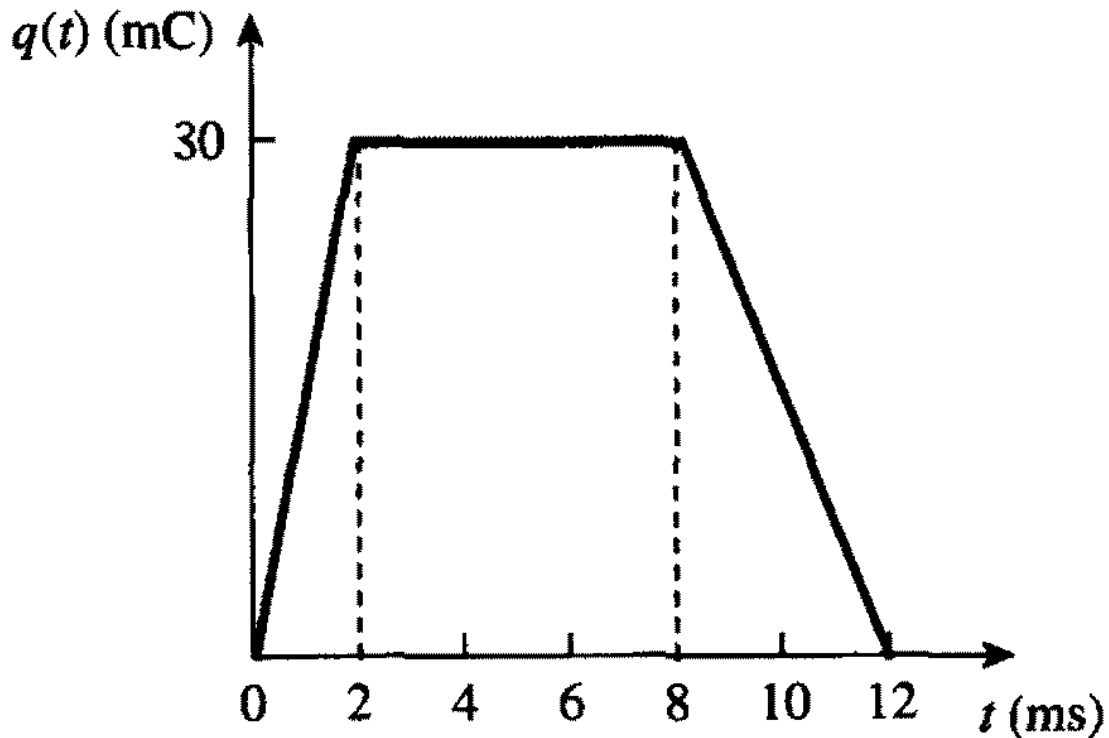


1.6 The charge entering a certain element is shown in Fig. 1.23. Find the current at:

- (a) $t = 1 \text{ ms}$ (b) $t = 6 \text{ ms}$ (c) $t = 10 \text{ ms}$



use (1.1) $i = \frac{dq}{dt}$ ← slope of $q(t)$!

$$a) \text{ @ } t = 1 \text{ ms} \quad \text{slope} = \frac{\text{rise}}{\text{run}} = \frac{30 \text{ mC}}{2 \text{ ms}} = 15 \text{ C/s}$$

$$\underline{\underline{i(t=1 \text{ ms}) = 15 \text{ A}}}$$

$$b) \text{ @ } t = 6 \text{ ms} \quad \text{slope} = 0 \Rightarrow \underline{\underline{i(6 \text{ ms}) = 0}}$$

$$c) \text{ @ } t = 10 \text{ ms} \quad \text{slope} = \frac{-30 \text{ mC}}{(12-8) \text{ ms}} \Rightarrow \underline{\underline{i(10 \text{ ms}) = -7.5 \text{ A}}}$$