

- 1.4 If a 12-V battery delivers 100 J in 5 s, find (a) the amount of charge delivered and (b) the current produced.

SOLUTION:

$$V = 12 \text{ V}, \Delta W = 100 \text{ J in } 5 \text{ s}$$

$$a) \Delta Q = \frac{\Delta W}{V} = \frac{100}{12}$$

$$\Delta Q = 8.33 \text{ C}$$

$$b) I = \frac{\Delta Q}{\Delta t} = \frac{8.33}{5}$$

$$I = 1.67 \text{ A}$$