

## Electrical Energy Practice Problems

$$\begin{aligned} \textcircled{1} \quad V &= 1.5V \\ I &= 2.8A \\ \Delta t &= 3600s \\ E &= ? \end{aligned} \quad \begin{aligned} E &= V \times I \times \Delta t \\ &= (1.5V)(2.8A)(3600s) \\ &= 3604.3J \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad \Delta t &= 45s \\ V &= 6V \\ I &= 0.30A \\ E &= ? \end{aligned} \quad \begin{aligned} E &= V \times I \times \Delta t \\ &= (6V)(0.30A)(45s) \\ &= 81J \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad \Delta t &= 180s \\ V &= 9V \\ I &= 1.4A \\ E &= ? \end{aligned} \quad \begin{aligned} E &= V \times I \times \Delta t \\ &= (9V)(1.4A)(180s) \\ &= 2268J \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad V &= 9V \\ I &= 0.5A \\ \Delta t &= 2.5h \\ \rightarrow \Delta t &= 9000s \\ E &= ? \end{aligned} \quad \begin{aligned} E &= V \times I \times \Delta t \\ &= (9V)(0.5A)(9000s) \\ &= 40500J \end{aligned}$$

⑤ voltage  
current  
time

⑥ time the device is in use