

6. Compute the cost at 5.0 ¢ / kWh of operating an electric motor for 8.0 hours, which takes 15.0 amps at 110.0 volts.

$$\frac{15.0 \text{ C}}{1 \text{ sec}} \times \frac{110.0 \text{ J}}{\text{C}} = 1650 \frac{\text{J}}{\text{sec}} = 1650 \text{ watt} \times \frac{1 \text{ kWatt}}{1000 \text{ watt}} = 1.65 \text{ kWatt} \times 8.0 \text{ hr}$$
$$= 13.2 \text{ kWhr} \times 5.0 \text{ ¢} = \boxed{0.66 \text{ ¢}}$$

7. How long would it take to deposit 100. grams of Al(s) from an electrolytic cell containing Al₂O₃ in solution at a current of 125 amperes?