

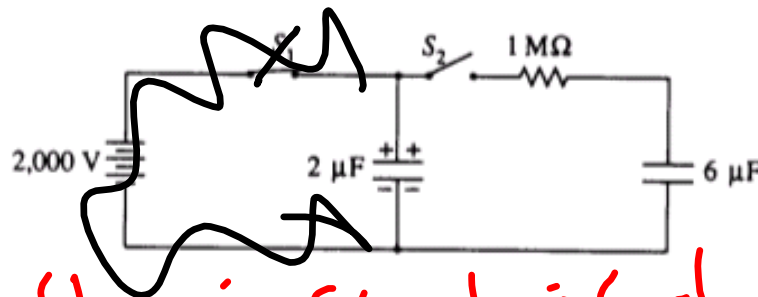
$$Q = VC$$

$$C = \frac{Q}{V}$$

$$U = \frac{1}{2} QV$$

$$= \frac{1}{2} CV^2$$

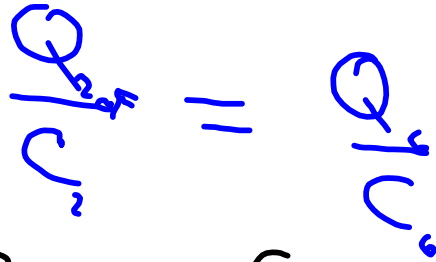
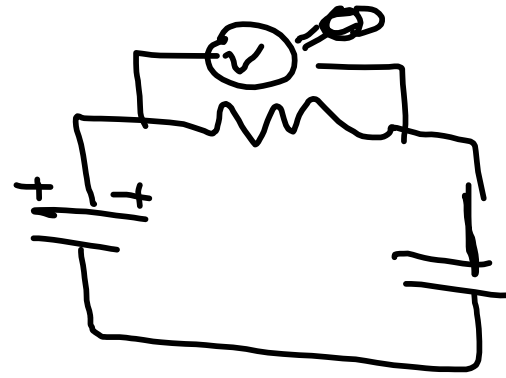
b) $V = IR$



Since it is the instant it closes

$$2000 \text{ V} = I (1 \text{ M}\Omega)$$

on capacitor



$$Q_2 C_6 = Q_6 C_2$$

$$Q_2 = Q_6 \frac{2 \mu F}{6 \mu F}$$

$$3 Q_2 = Q_6$$

$$Q = 4 \times 10^{-3} \text{ C}$$

cons. of charge

$$Q_2 + Q_6 = Q$$

$$Q_2 + 3Q_2 = 4 \times 10^{-3} \text{ C}$$

$$Q_2 = 1 \times 10^{-3} \text{ C}$$

$$Q_6 = 3 \times 10^{-3} \text{ C}$$

②

$$U = \frac{1}{2} QV$$

$$Q = VC$$
$$V = \frac{Q}{C}$$

$$U = \frac{1}{2} \left[\frac{Q^2}{2 \times 10^{-6} \text{ F}} + \frac{Q^2}{6 \times 10^{-6} \text{ F}} \right]$$

Handwritten calculation showing the energy stored in two capacitors. The first capacitor has a capacitance of $2 \times 10^{-6} \text{ F}$ and the second has $6 \times 10^{-6} \text{ F}$. The energy is calculated as $U = \frac{1}{2} \left[\frac{Q^2}{2 \times 10^{-6} \text{ F}} + \frac{Q^2}{6 \times 10^{-6} \text{ F}} \right]$.

