P #E

Ch 18 - Worksheet

$V = 6\,V$
$C = 200\,\mu F = 200 \times 10^{-6}\,F$
$R = 10\,\Omega$

a) S_1 is closed, so charge flows through R

$$V = I \cdot R$$
$$(6\,V) = I \cdot (10\,\Omega)$$

$$\boxed{I = .6\,A}$$

b) S_2 is open, so no charge flows to C

$$\boxed{Q = \text{zero}}$$

c) S_1 has not changed: $\boxed{I = .6\,A}$

d) S_2 is closed, so charge flows to C

$$C = \frac{Q}{V} \qquad (200 \times 10^{-6}\,F) = \frac{Q}{6\,V}$$

$$\boxed{Q = .0012\,C}$$