

RC Circuit Examples (part of Chapter 27)

- 1) Consider a series RC circuit for which $C = 6.0$ microFarads, $R = 2.0 \times 10^6 \Omega$ and $\varepsilon = 20 V$. Find (a) the time constant of the circuit.
(b) the maximum charge on the capacitor after the switch in the circuit is closed.
(c) the amount of charge on the capacitor after 2 time constants have passed.

- 2) If 10 seconds after closing the switch on the series RC circuit shown, there is 86 % of the total charge on the capacitor, determine the magnitude of charge on the plates 2 seconds after closing the switch. $\varepsilon = 30 V$ and $C = 5.0 \mu F$

