

QUESTIONS TO HAND IN – EXPERIMENT 8

NAME _____

LAB INSTRUCTOR _____ LAB DAY/TIME _____

1. Show that the product of resistance times capacitance has units of time.
2. A $1\text{ M}\Omega$ resistor is placed in a series circuit with a 9 V battery, a switch, and a $0.01\ \mu\text{F}$ capacitor. What is the time constant of this combination?
3. How long after the switch is closed does it take the charge on the $0.01\ \mu\text{F}$ capacitor to rise to 63% of its final value?
4. What will the current be in the circuit after 1 second?
5. When is the current in the circuit the largest?