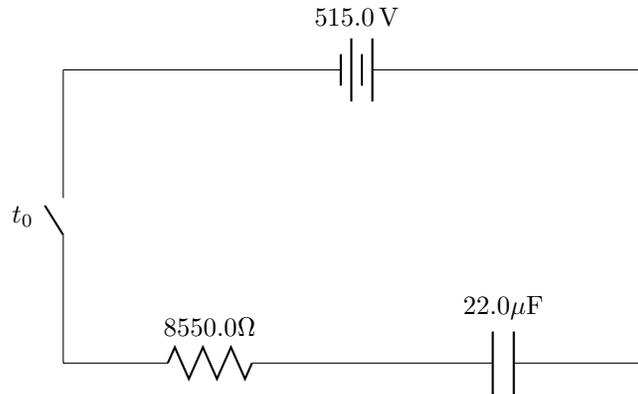


Name: \_\_\_\_\_

Answer the questions in the spaces provided on the question sheets. If you run out of room for an answer, continue on the back of the page.



- Find the charge, as a function of time, on the capacitor for the above circuit when the switch is closed. What is the value for each at  $5.0 \times 10^{-5}$  seconds? What about  $150.0 \times 10^{-3}$  seconds? What about 1.0?

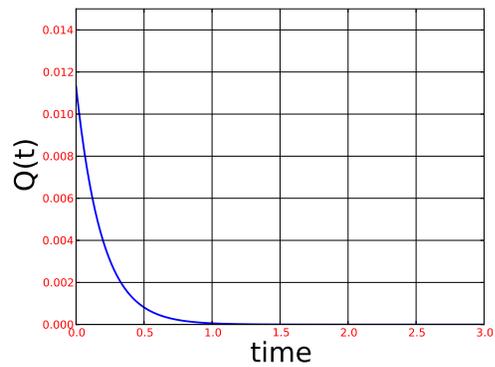
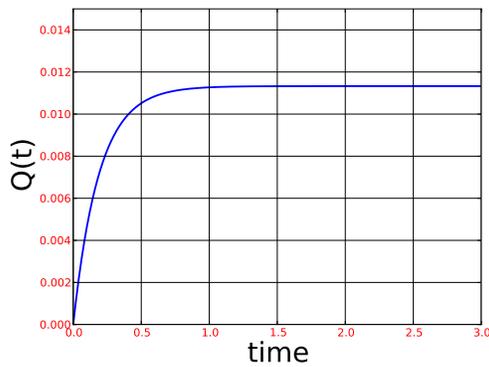
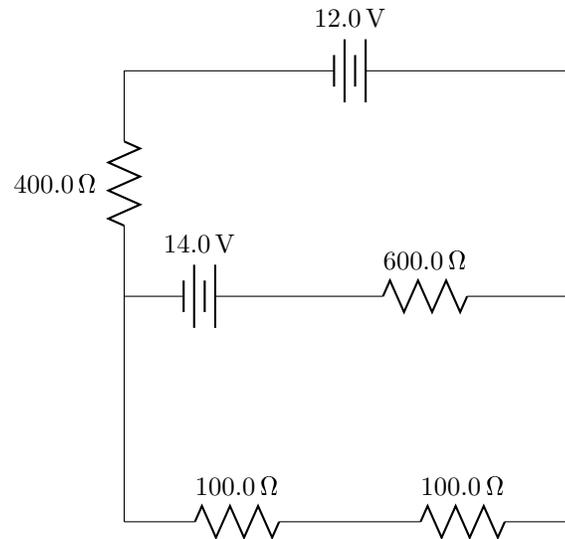
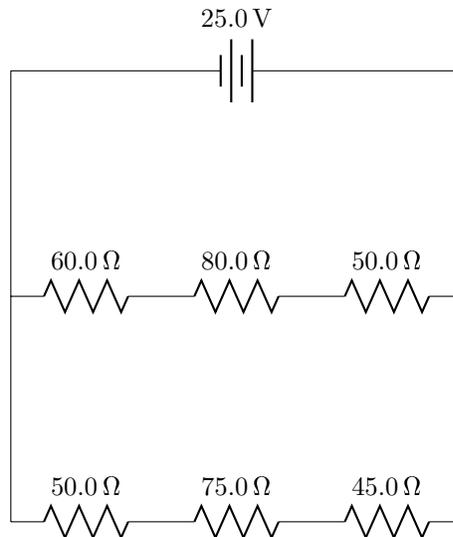


Figure 0.1: Charging a capacitor as a function of time (left) and discharging as a function of time (right).



2. Using the loop and junction rules, find the current in each branch of the above circuit. Label each branch and give its current.



3. Find the equivalent resistor in the above circuit and the current in each branch of the circuit. *Hint: first treat each branch individually in series and find the equivalent resistor for each branch, then treat the parallel problem.*