Sample Calculations for lab 04

(1) Show the addition of series and parallel capacitance. In particular, if a 20µf and and a 30µf capacitor are connected in series, calculate (showing steps and units) the series equivalent capacitance.

(2) Show the addition of series and parallel capacitance. In particular, if a 20µf and and a 30µf capacitor are connected in parallel, calculate (showing steps and units) the parallel equivalent capacitance.

(3) A 1MΩ resistor and a 1 µf capacitor are connected. If the capacitor is initially at a potential difference of 10V, determine showing details, with units, the time that it will take until the potential difference drops to ½ of its original value.