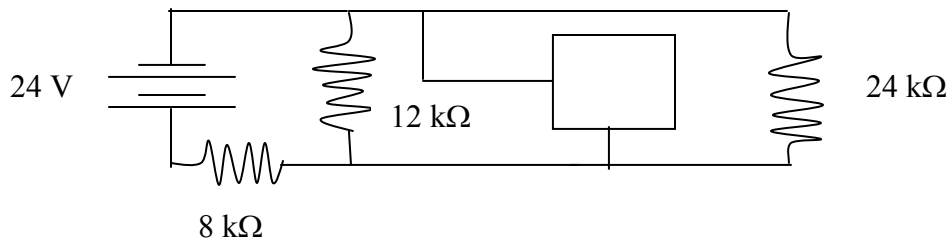


NAME _____

DATE _____

Physics 251 Pre-Laboratory 12

Consider the circuit shown below.



Let's continue from your preLab of last week. When the circuit above is first connected the current from the battery is 1.875 mA. Five second later the current from the battery is 1.5 mA. You have figured out that there has to be a capacitor inside the box. If now you keep track of the voltage across EACH resistors while taking off the battery, what changes, if any do you expect to see for the voltage across each resistor?

If you remove your battery, discharge the capacitor, and then replace the 8 KΩ with a 4 KΩ resistor and reconnect the battery, what do you expect for the current measurement? What do you expect for the voltage measurement across each resistor?

Similar as previous step, if you restore everything as the original state, keep the 8 KΩ resistor, but cut the resistance into half for the 12 KΩ and 24 KΩ resistor instead. What do you expect for the current and voltage measurements?