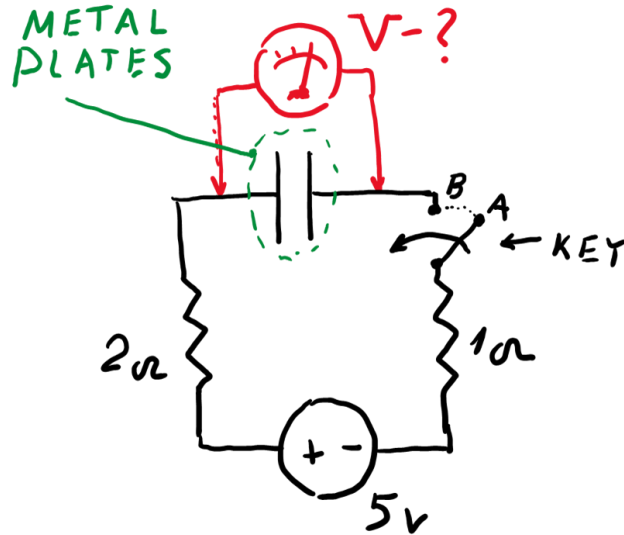


Homework 15

We are going to discuss *capacitors* and *electrical capacitance*.

Before we start, please try to answer the questions below and explain your answer. In a figure below you see a circuit consisting of a 5V ideal voltage source, two resistors and two parallel metal plates. The metal plates are not connected - there is empty space between them



At a certain moment the key is closed (moved from position A to position B). There is a voltmeter connected to the plates as it is shown in the figure (the voltmeter is shown in red).

1. What was the voltmeter reading immediately after the key had been closed?
2. What was the voltmeter reading in a very long time after the key had been closed?

You may need Ohm's law and the second Kirchhoff's law (sum of the voltages along a loop is zero)