Homework 10.

Sometimes it is not easy to calculate equivalent resistance using just composition rules for parallel and series resistances. Below are two difficult (for a first glance) problems. One way to find equivalent resistance of these circuits is to modify them in a certain way so the application of the resistor composition rules will be possible. I will give you a little hint: If you know that the current will not flow between two points of the circuit even if you connect these points with a wire – you can connect them. This will not change the equivalent resistance.

Find total current which flows through the cube (see Figure below). Each resistor is 1 Ohm.
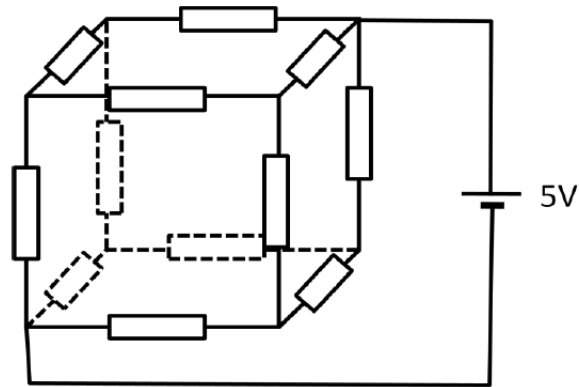
1. Find total current flowing through the construction made of three connected metal circles. The resistance of each of the short arcs connecting the nodes is 2 Ohm.