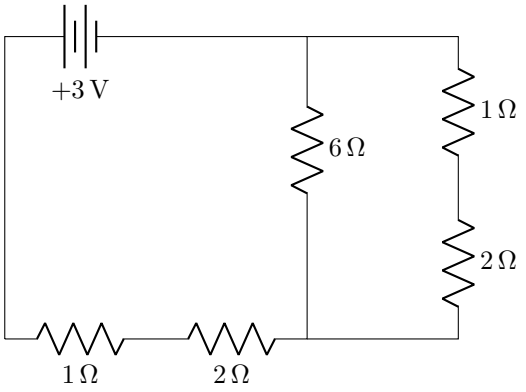
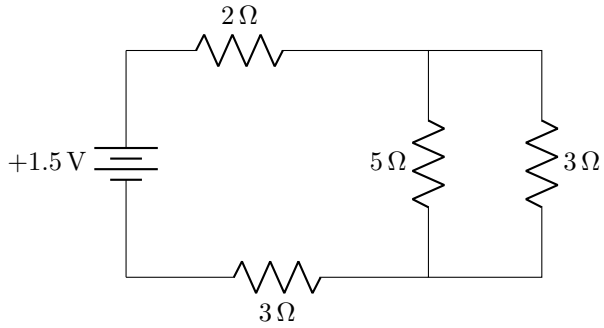
Equivalent Resistance

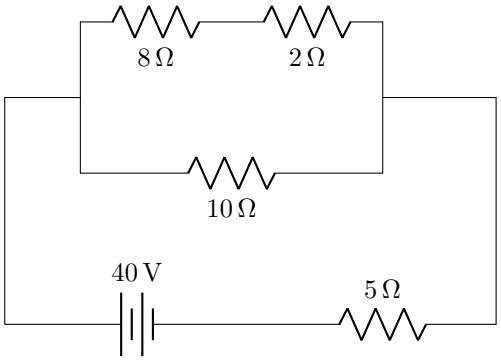
1. **Consolidation:** Find the current going through the battery in the circuit below.



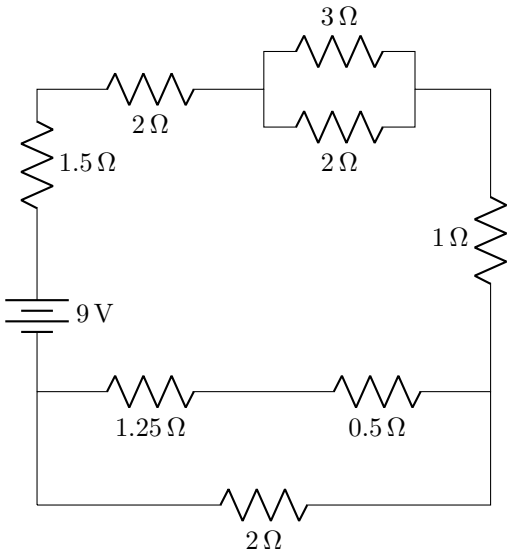
2. Find the current going through the battery in the circuit below.



3. Find the current going through the battery in the circuit below.

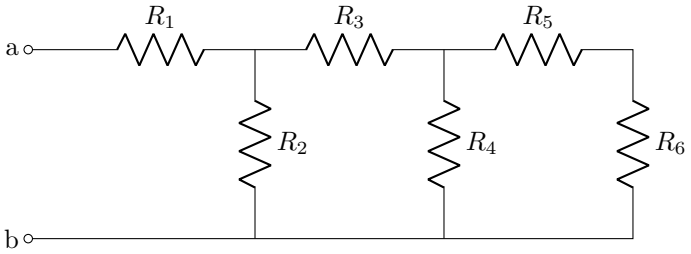


4. Find the current going through the battery in the circuit below.



Answers: 3) 4.00 A 4) 1.49 A

5. Consider the following circuit, in which $R_1 = R_3 = R_5 = R_6 = 1\,\text{k}\Omega$ and $R_2 = R_4 = 2\,\text{k}\Omega$.



(a) Calculate Equivalent Resistance

(b) A 9-volt battery is connected between points a and b. Calculate the current through *each* resistor.

(c) Calculate the potential difference across each resistor.

6. **Bonus:** Calculate the equivalent resistance of a cube that has a 1-ohm resistor along each edge.