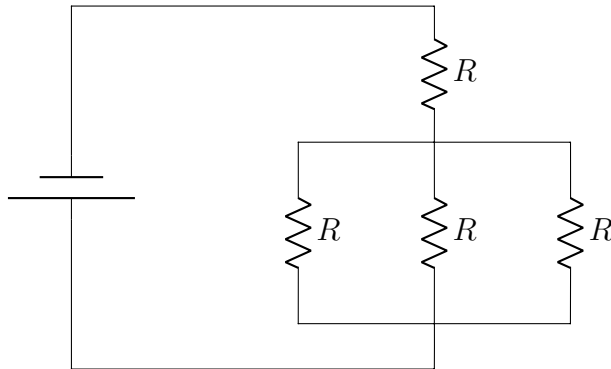


Homework 1

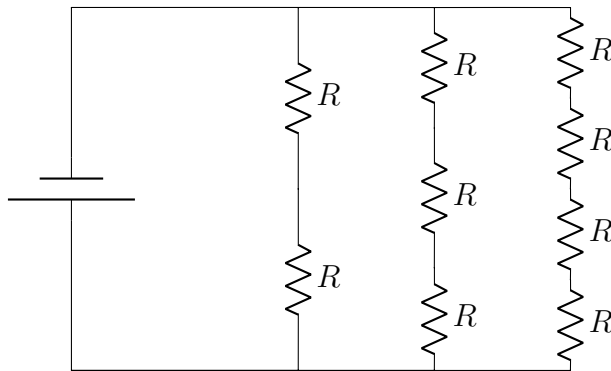
Name: _____

1. What is the resistance of the following circuits? Write the resistance in terms of R

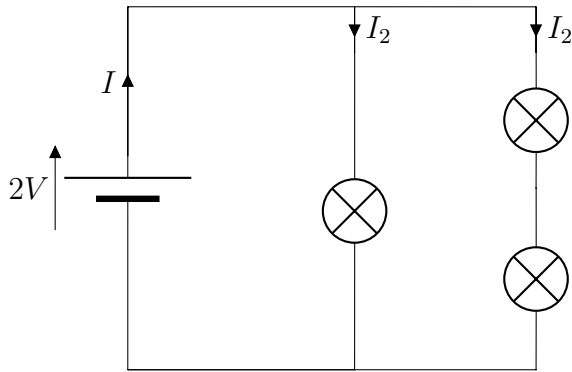
(a) Circuit 1:



(b) Circuit 2:



2. In the following circuit, all light bulbs have the same resistance $R = 2\ \Omega$ and the battery has $V = 2\text{ V}$. As we have learned in lectures the total current I splits when it reaches the branching point, into I_1 and I_2



- (a) What is the value of I_1 and I_2 ?
- (b) What is the potential difference across each light bulb (i.e. ΔV_1 , ΔV_2 and ΔV_3)?
- (c) What is the power dissipated at each light bulb? (Remember $P = I\Delta V$)