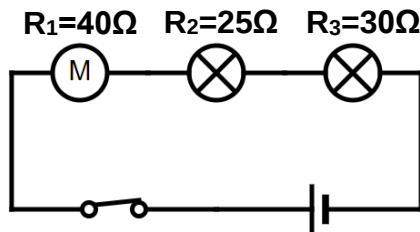


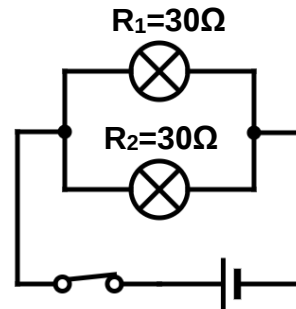
Name: _____ Date: _____

Exercise 1: Calculate the equivalent resistance of the following circuits.*Note: take into account that components through which electric current does not flow must not be considered when calculating the equivalent resistance of the circuit.*

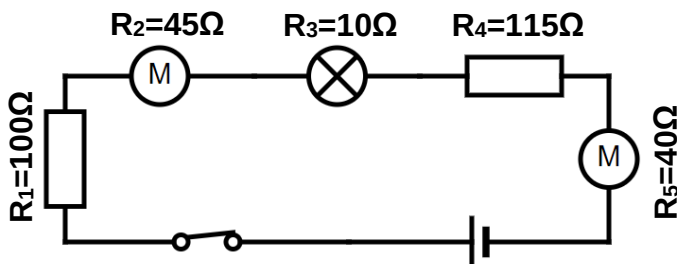
a)



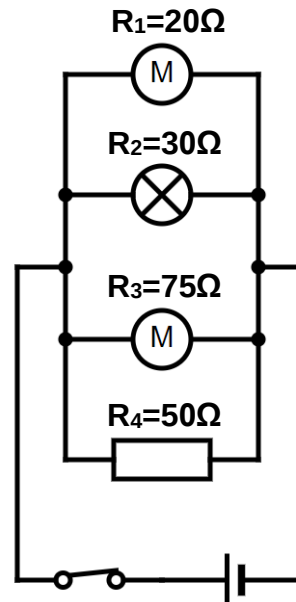
b)



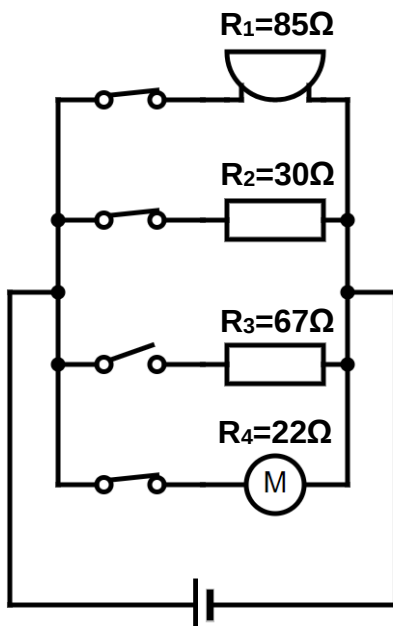
c)



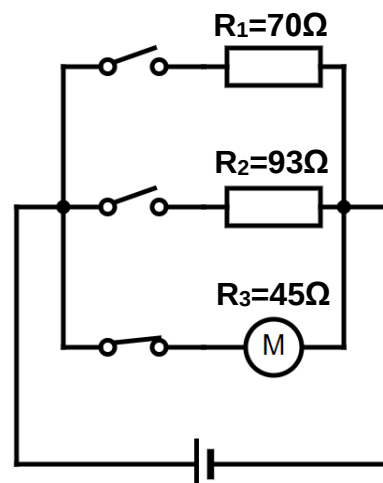
d)



e)

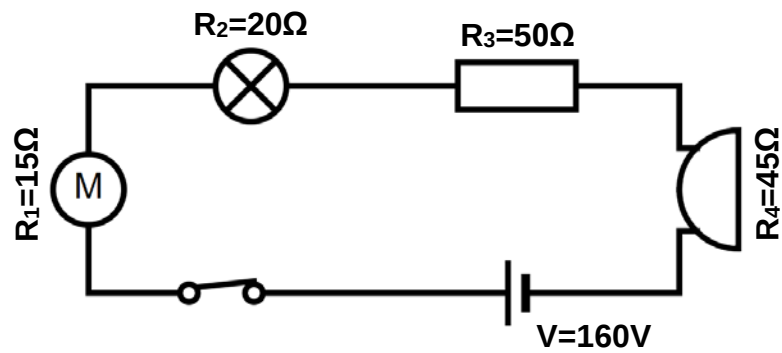


f)



Exercise 2: Fill in the table with the intensity, voltage, resistance, power and energy of each of the components. What kind of circuit is it? (Series/parallel)

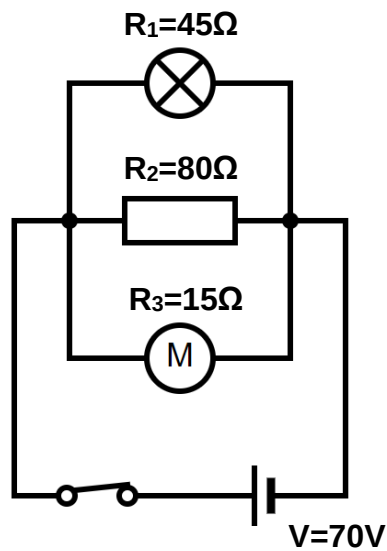
Note: consider that the circuit is connected for one minute when calculating the energy.



Component	Intensity (I)	Voltage (V)	Resistance (R)	Power (P)	Energy (E)
Motor					
Bulb					
Resistor					
Buzzer					

Exercise 3: Fill in the table with the intensity, voltage, resistance, power and energy of each of the components. What kind of circuit is it? (Series/parallel)

Note: consider that the circuit is connected for 20 seconds when calculating the energy.

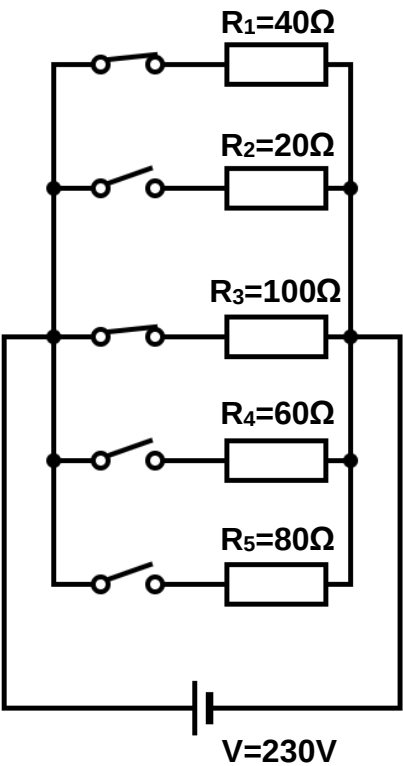


Component	Intensity (I)	Voltage (V)	Resistance (R)	Power (P)	Energy (E)
Bulb					
Resistor					
Motor					

Exercise 4: The electrical installation of a house is, basically, a parallel circuit in which each component can be turned on or off with a switch. The circuit below is a simplified version of an electrical installation in which only the kitchen devices have been included. As you can see, even though some appliances, such as the washing machine, for example, use motors, all of them have been represented as a resistor (as it is usually done). You can check what component corresponds to each resistance in the table on the right.

Fill in the table taking into account that not all switches are closed, and that the voltage of the source is 230V, which is the one typically used by the electrical grid in Europe.

Note: consider that the circuit is connected for five minutes when calculating the energy.



Resistance	Home appliance
R_1	Oven
R_2	Fridge
R_3	Washing machine
R_4	Toaster
R_5	Coffee machine

Component	Intensity (I)	Voltage (V)	Resistance (R)	Power (P)	Energy (E)
Oven					
Fridge					
Washing machine					
Toaster					
Coffee machine					