

May 20, 2011

- 1) Answers pg 301 #7, Circuit Assignment
- 2) Series and Parallel Circuits
- 3) Resistance

Warm- Up

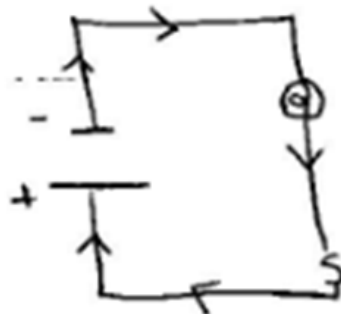
Draw a circuit that could be used to power a clock. (remember it must have 4 parts)

# Answers Pg 301 #7 and Circuit Assignment

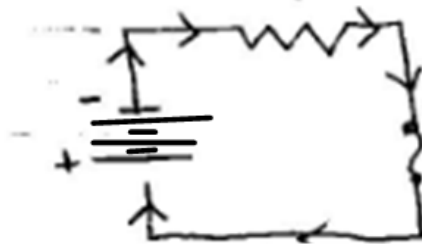
7. Schematic diagrams are used rather than pictures because the same symbol can be used for different types of the same thing i.e. there are many different dry cells and batteries. Also it is much simpler to draw a symbol than a picture.

## Circuit Diagram Symbols Assign Answers

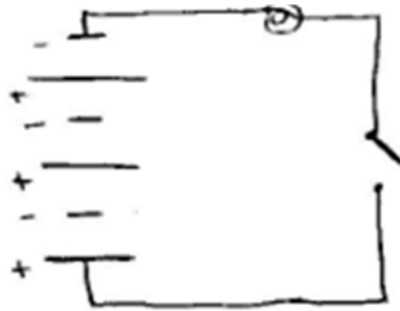
- a) a cell  
light bulb  
switch



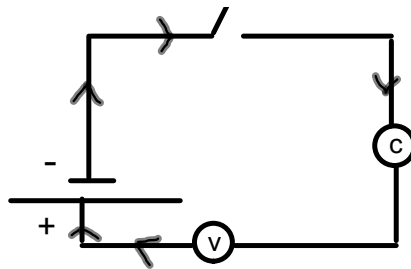
- b) 3 cell battery  
fuse  
resistor



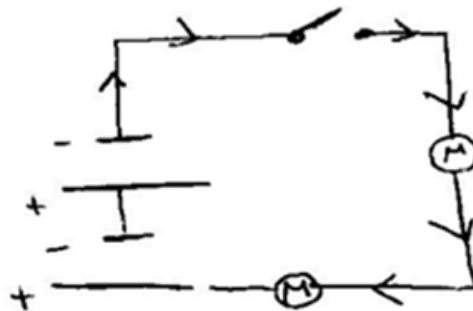
c) 3 cell battery  
flash light bulb



d) a battery  
switch  
clock  
voltmeter

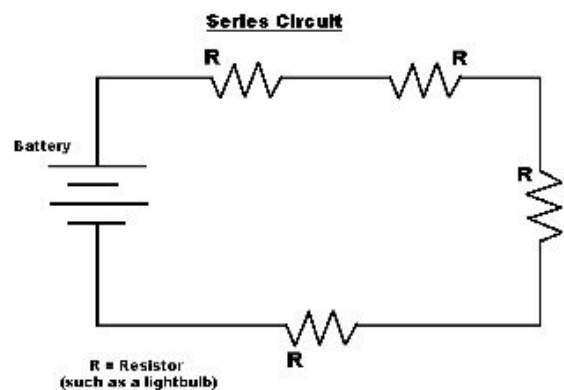
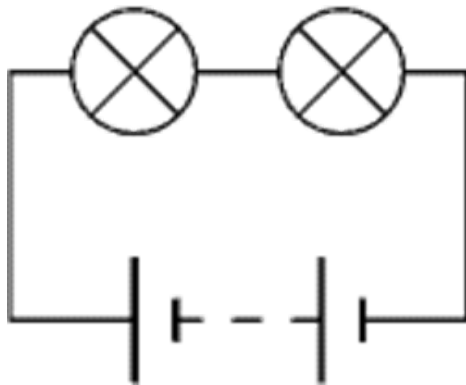


e) 2 cells  
switch  
2 motors



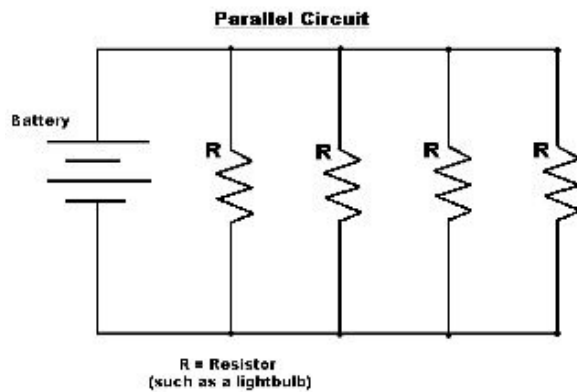
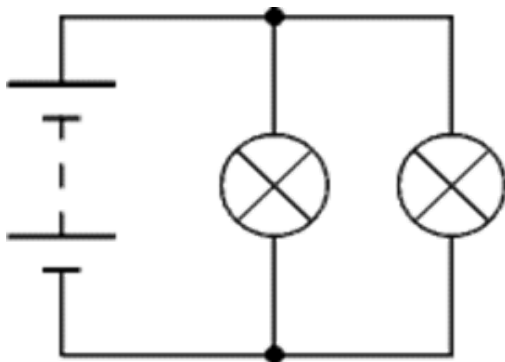
## The Series Circuit

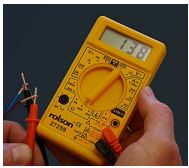
- This term applies to any electric circuit in which the parts of the circuit are wired to one another in a single path.
- The electricity has only one path to follow.
- Example: the old Christmas lights that when one light went out they all went out.



# Parallel Circuits

- In a parallel circuit, current passes through a separate circuit to each part. Each separate circuit is called a branch circuit.
- Ex. when one bulb goes out in a string of lights the others are not effected.





# Electrical Resistance



- The molecules of all types of conductors impede or resist, the flow of electrons to some extent.
- This ability to slow the flow of electrons is called electrical resistance.
- Electrical resistors are devices that are used for this purpose.
- The unit for resistance is the ohm ( $\Omega$ ), and the symbol is R.

## What About Resistance?

The flow of electricity depends on how much resistance is in the circuit.

In our examples, with the Christmas lights. The bulbs provide resistance.

In a series circuit, the resistance in the circuit equals the total resistance of all the bulbs. The more bulbs in the circuit, the dimmer they will light.

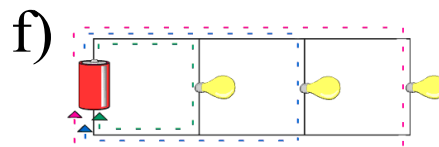
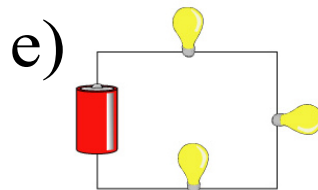
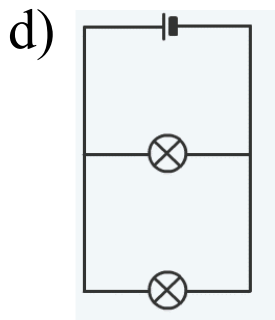
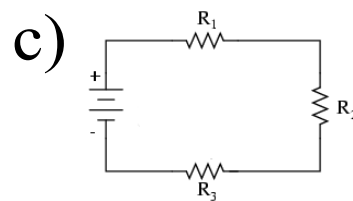
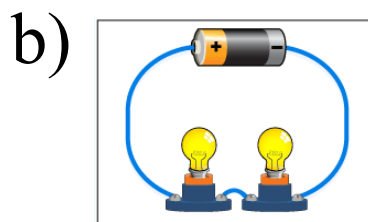
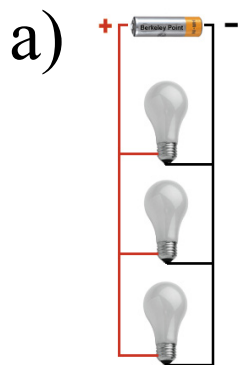
In a parallel circuit, there are multiple paths through which current can flow, so the resistance of the overall circuit is lower than it would be if only one path was available. The lower resistance means that the bulbs will burn brighter compared to the same number of bulbs arranged in a series circuit.

Give the letter of each of the following that are:

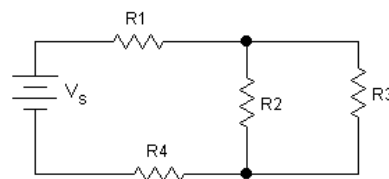
- in series?

- in parallel?

Between a,b,e or f which would provide the brightest light?



g)





## Attachments

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Chp 9 senteo quiz.notebook