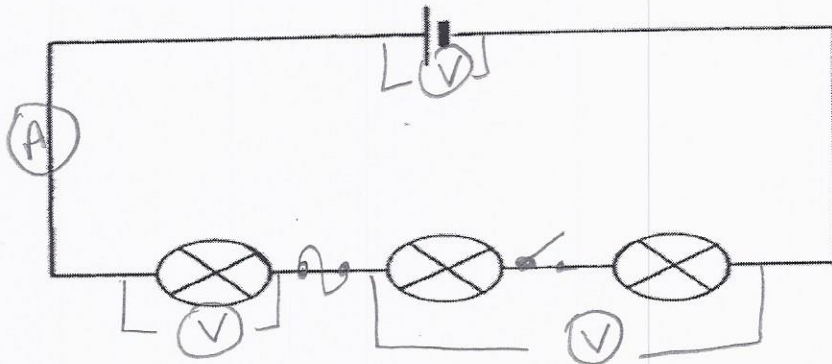
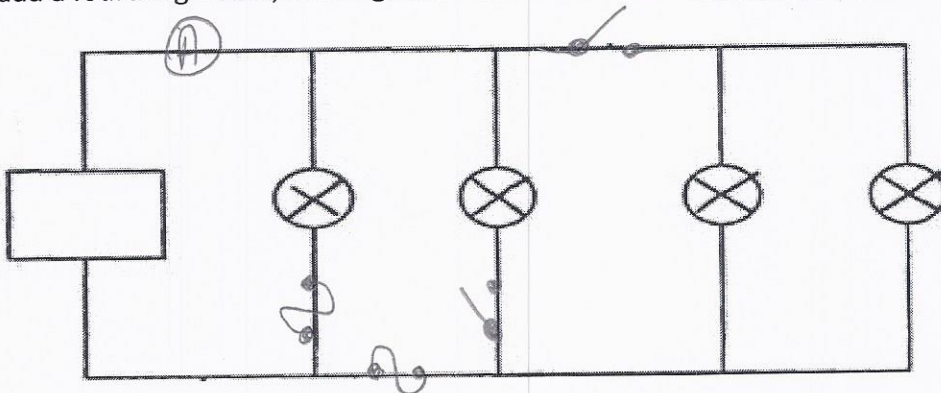


Circuit Review

1. The circuit below is a Series circuit. There is one pathway. If one lightbulb burns out the other lightbulbs won't work. This circuit has high resistance and low current INT. If you increase the voltage from the power supply you will not affect the resistors, however you will increase the current int which will make the lightbulbs more bright. If you added a fourth lightbulb, the brightness of the 3 lightbulbs would decrease. If you wanted to add a fourth lightbulb and keep the same brightness of the three lightbulbs you would have to increase the voltage from the power supply.



2. On the circuit above place an ammeter that measures total current, a fuse for lightbulb 1, a switch for lightbulb 2. A voltmeter for the total voltage, a voltmeter for lightbulb 1 and a voltmeter for lightbulb 2 and 3 together.
3. The circuit below is a Parallel circuit. There are multiple pathways. If one of the lightbulbs stop working the others will continue to work. If you add a fourth lightbulb, the brightness of the three will remain the same.



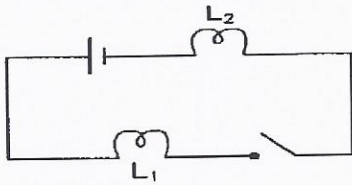
4. On the circuit above place an ammeter that measures total current, a fuse for L1, a switch for L2. A switch that controls L3 and L4 and a fuse for L2, L3 and L4.

5. A mystery circuit consists of two light bulbs, a switch, and a power supply. The following table shows what happens to both light bulbs when the switch is opened or closed.

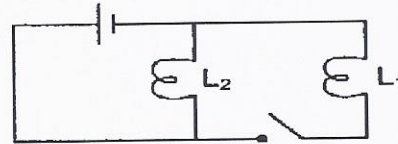
Test	Observations
Open the switch	L ₁ goes out L ₂ stays on
Close the switch	L ₁ comes L ₂ stays on

Which diagram correctly represents this mystery circuit?

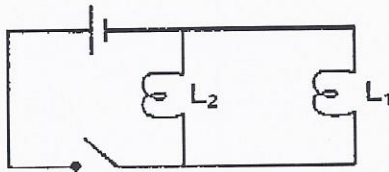
A)



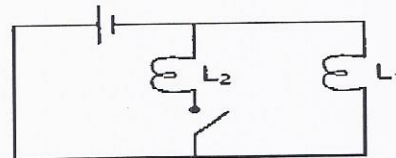
C)



B)

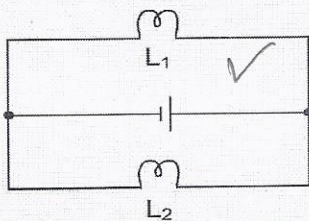


D)

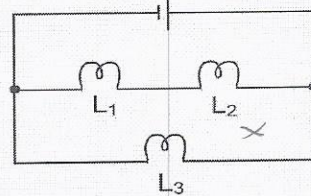


6. If you unscrew lightbulb L₁ in each of the three electrical circuits shown below, where will light bulb L₂ remain lit?

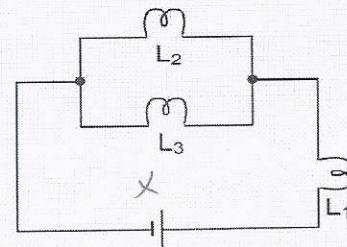
Circuit 1



Circuit 2

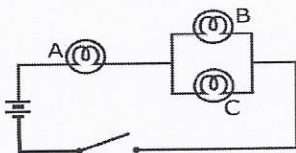


Circuit 3



- A) In circuits 1 and 2 **B) In circuit 1 only** C) In circuits 2 and 3 D) In circuits 1 and 3

7. What would happen if the switch were closed and then Bulb C in this electrical circuit burned out?

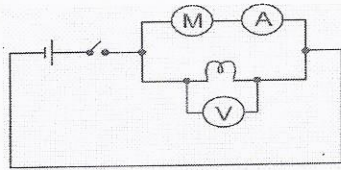


- A) All three bulbs would go dark
 B) All three bulbs would remain normally lit up
 C) Bulb A would be dark and Bulbs B and C would be more dimly lit
D) Bulbs A and B would remain normally lit but C would be dark

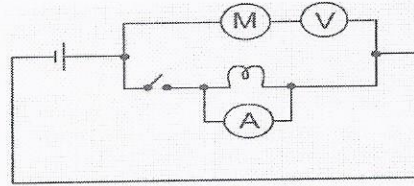
8. Listed below are the characteristics of an electrical circuit consisting of a power source, a light bulb, a switch and a motor (represented by the symbol M in the diagrams below).
- The circuit has a device for measuring the potential difference across the light bulb.
 - The circuit has another device for measuring the current intensity in the motor.
 - The motor and the light are controlled by a switch.

Which of the following diagrams correctly represents this electrical circuit?

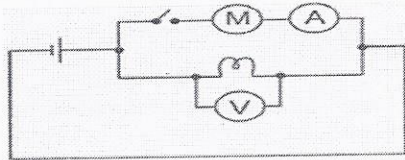
A)



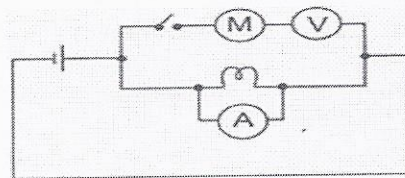
C)



B)



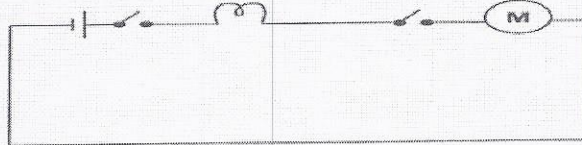
D)



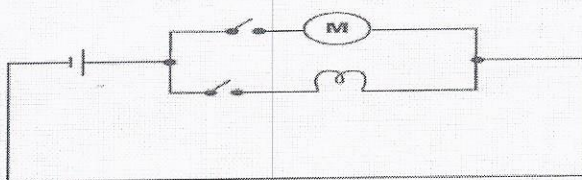
9. When a grocery store check-out clerk is ready to serve customers:
- he can press a switch to turn on a light indicating that the cash is open
 - he can press a switch to start the conveyer belt motor, if necessary,
 - he can have each component work independently

Which electrical circuit represents the situation described above?

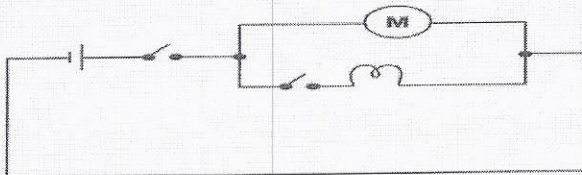
A)



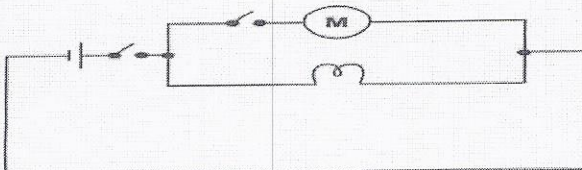
B)



C)

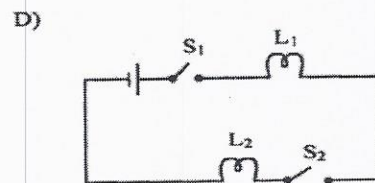
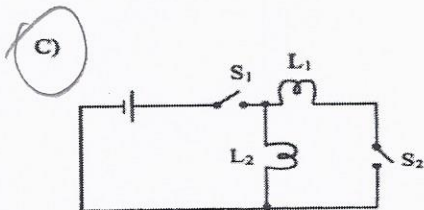
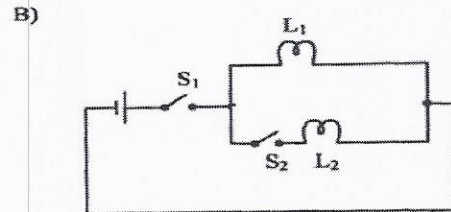
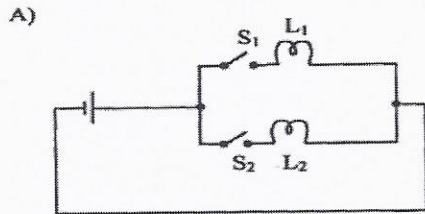


D)

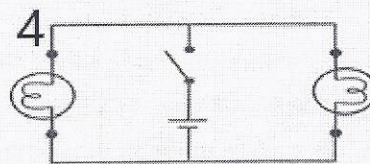
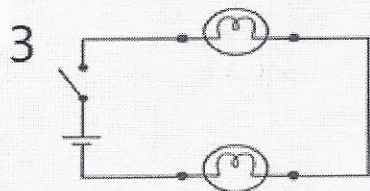
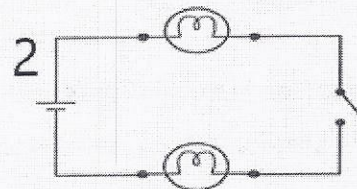
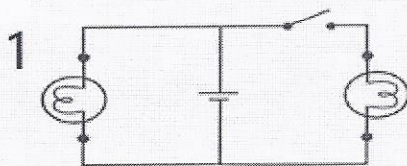


10. Which one of the diagrams below represents a circuit in which the following two situations are possible?

- When switch S_1 is closed and switch S_2 is open, only light L_2 will be on.
- When switch S_1 is open and switch S_2 is closed, neither light will be on.



11. You have 2 lightbulbs, a battery and a switch. You must build an electrical circuit whose switch will turn off all lightbulbs when it is open. Which of the following diagrams correctly represents the circuit described above?



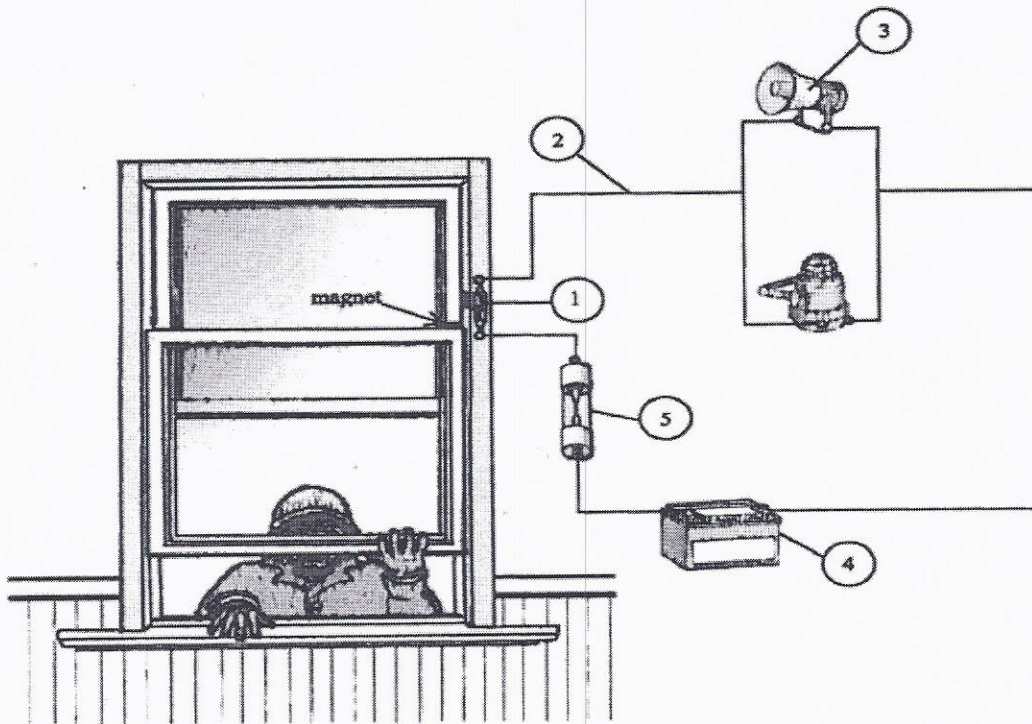
A) Diagram 2 and 3

B) Diagram 1 and 4

C) Diagram 3

D) Diagram 2, 3 and 4

12. The electrical circuit of a magnetic alarm system is illustrated in the diagram below.



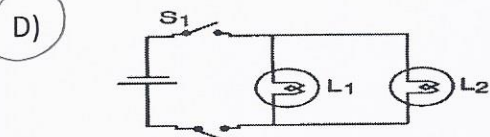
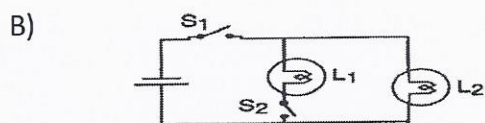
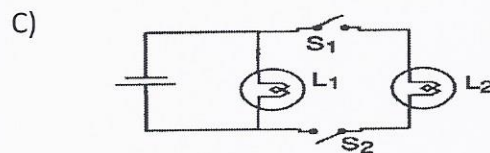
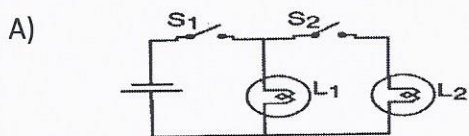
What is the electrical function of component 5 in this electrical circuit?

- A) Protection B) Control C) Conduction D) Transformation

13. An electrical circuit consists of a power source, two switches (S_1 and S_2) and two light bulbs (L_1 and L_2). The following table shows what happens to both light bulbs:

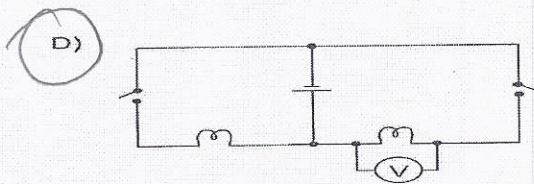
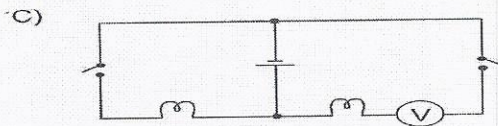
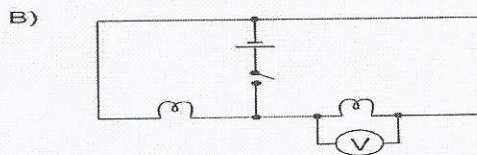
Switch		Light Bulb	
S_1	S_2	L_1	L_2
open	open	out	out
closed	open	out	out

Which of the following circuit diagrams illustrates the results shown in the table above?



14. Which of the diagrams below illustrates the following two features?

- Each light bulb is controlled by one switch
- A potential difference (voltage) measurement is taken on one of the two light bulbs.

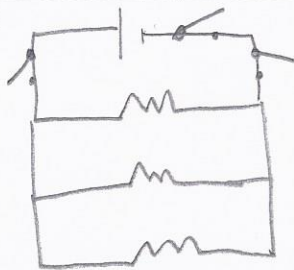


15. Your teacher describes two mystery circuits. The same type of circuit must be drawn for each picture. Each contains three switches, three identical resistors and a power supply.
Draw each circuit correctly.

In the first circuit- all three switches must be closed for the current to flow through the resistors.

In the second circuit- each time one of the switches is opened, current flows through the other two resistors.

First circuit



Second Circuit

