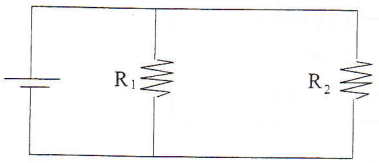
Ammeter and Voltmeter Placement Worksheet

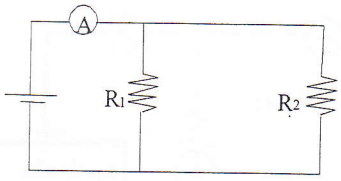
1. Below is a diagram of two resistors R_1 and R_2 connected in parallel.



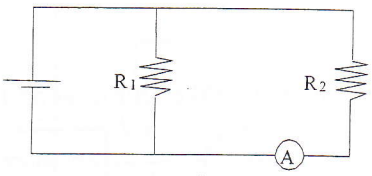
You are to connect an ammeter in such a way that you will be able to directly read the current intensity running through resistor R_1.

Which of the diagrams below illustrates the way the ammeter should be connected?

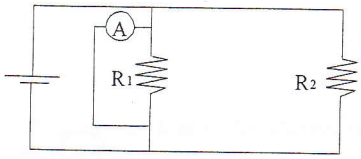
A)



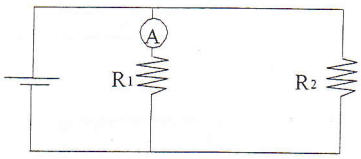
C)



B)

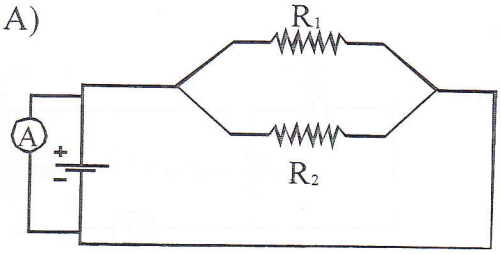


D)

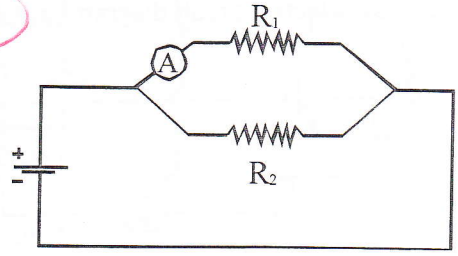


2. You are to connect ammeter A so that you can measure the current intensity, *I*, flowing through resistor R_1. Which diagram shows where the ammeter should be placed?

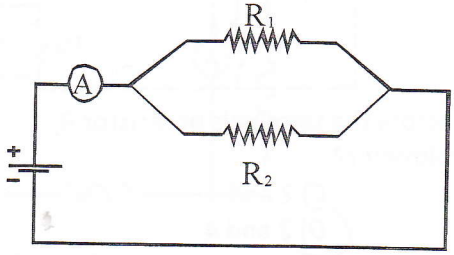
A)



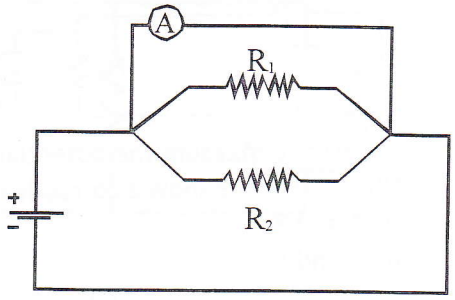
C)



B)

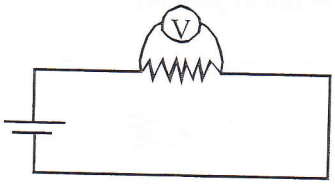


D)

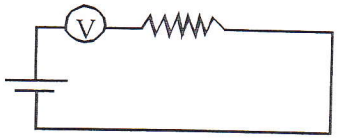


3. You have to connect a voltmeter to determine the potential difference across the terminals of a resistor in a simple circuit. In which diagram below is the voltmeter properly connected?

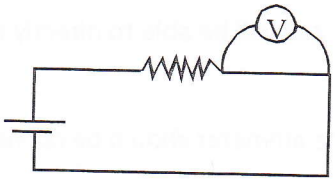
A)



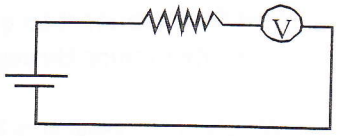
C)



B)

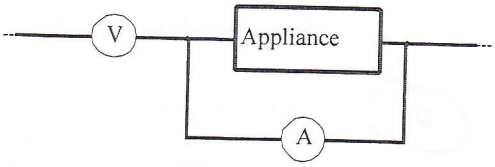


D)



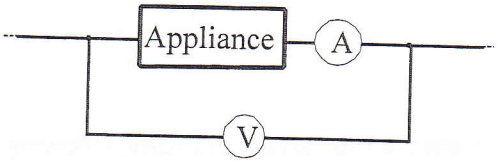
4. How must the ammeter and the voltmeter be connected?

A)

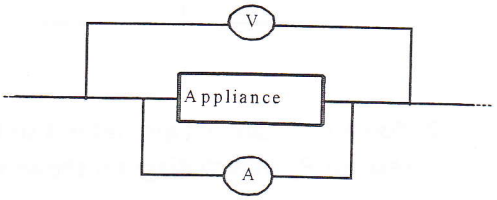


C)

B)

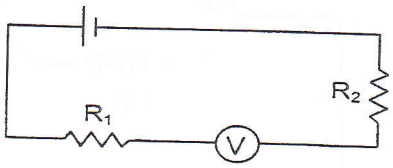


D)

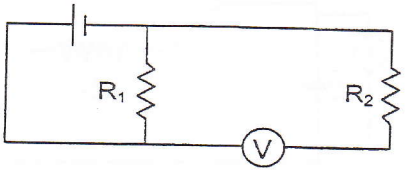


5. Four electric circuit diagrams are given below.

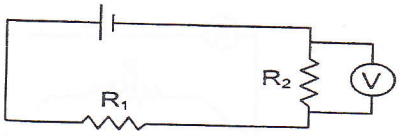
1)



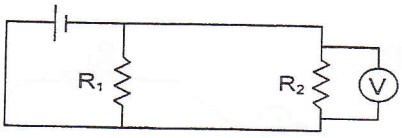
3)



2)



4)

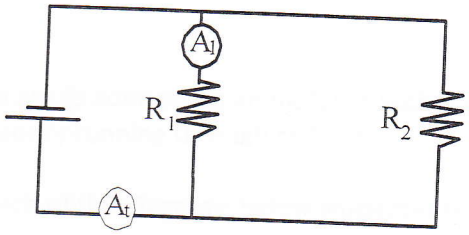


You wish to measure the potential difference across the terminals of resistor R_2.
Which diagrams show a correctly connected voltmeter?

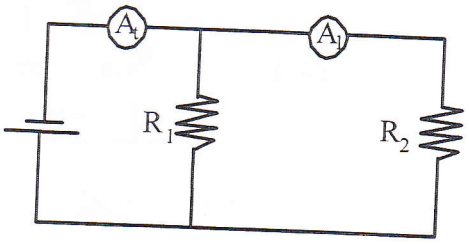
A) 1 and 3
B) 1 and 4
C) 2 and 3
D) 2 and 4

6. A student must connect two ammeters (A_t and A_1) to the circuit shown below. Ammeter A_t must measure the total current intensity in the circuit. Ammeter A_1 must measure the current intensity in resistor R_1. Which of the following diagrams shows the proper way of connecting these ammeters?

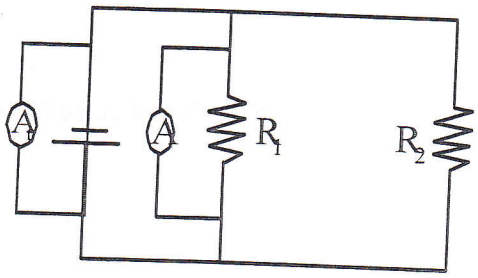
A)



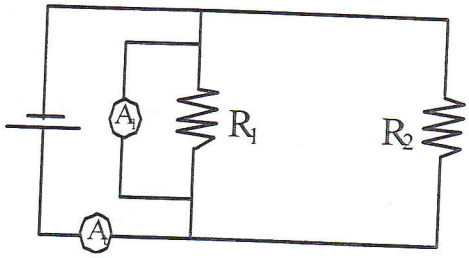
B)



C)

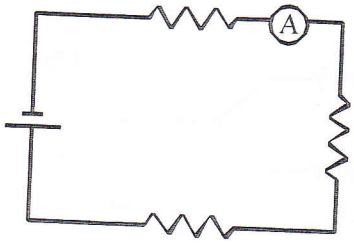


D)

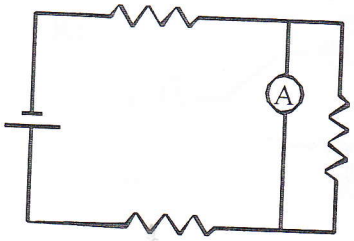


7. Four electric circuits are illustrated below. Which two circuit diagrams show the proper connection for an ammeter that measures the total current in the circuit?

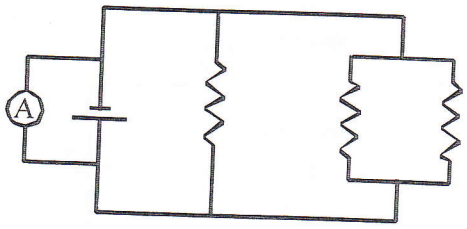
Circuit 1



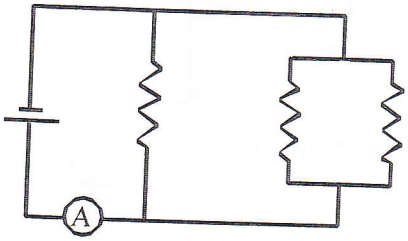
Circuit 2



Circuit 3



Circuit 4



A) 1 and 3
B) 1 and 4
C) 2 and 3
D) 2 and 4