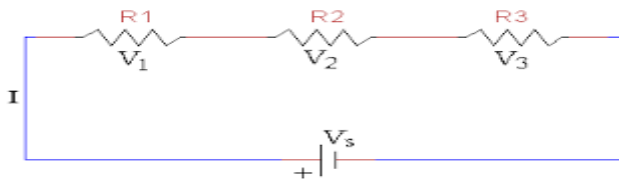# Arrangement of Resistors

1.Series connection

Series connection of three resistors is shown.

The effective resistance of this combination, **$R=R_1+R_2+R_3$**

That is , effective resistance of series combination is equal to the sum of resistance of the all resistors.

Features

- Effective resistance increases with the increase of the number of resistors.
- Same current flows through all resistors.
- Applied voltage will be split across the resistors.
- Potential difference will be large across high resistor and it will be small aceoss small resistor.

Problem

1. What is the current when two 4Ω and 2Ω connected in series with a 6V battery?

   Ans: $R_1=4Ω$, $R_2=2Ω$

    $R= R_1+R_2=4+2=6Ω$

 By Ohm's law I=V/R=6/6=1A

Assignment

1.It is given 5Ω,20Ω resistors and a 10V battery.

   a. Draw the circuit diagram of series combination of these resistors to the battery.

   b. What is the effective resistance of this circuit.

   c. What is the current in the circuit.

Suraj S HST(Physical Science) MTDMHSS THONDERNAD