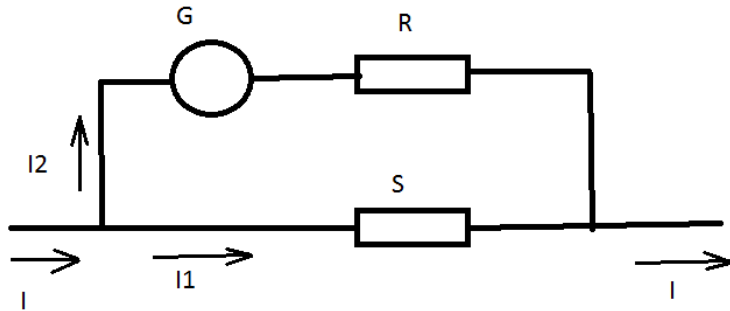


Question #71133, Physics / Electric Circuits

A galvanometer of resistance 'G' is connected with a shunt of resistance 'S'. A resistance of 'R' is connected in series with galvanometer such that main current in the circuit remains same. Find the value of 'R' ?

Solution.



I is main current.

$$I = I_1 + I_2$$

$$I_1 S = I_2 (G + R)$$

$$I = I_2 + I_2 \frac{G + R}{S}$$

Answer:

$$R = S \frac{I - I_2}{I_2} - G$$