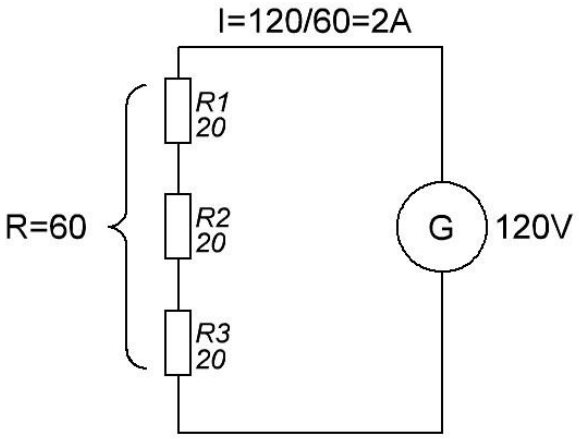
Question #76619

There are three 20.0 ohm resistors in series across a 120.0-V generator. What is the equivalent resistance of the circuit?

What is the current in the circuit?

What is the total voltage drop across the circuit?

Solution.



1) Equivalent resistance of the circuit is $R1+R2+R3+R_G=60+R_G$ Ohm. R_G has very low resistance, therefore we can neglect this resistance. To calculate R_G resistance to insufficient data.

2) Current in this circuit $I = \frac{U}{R} = \frac{120}{60} = 2A$

3) To calculate the voltage drop in the circuit, there is no data on internal resistance R_G.