Answer on question #44114, Physics, Electric circuits

Current decreases when passing through a resistor and then increases again upon exiting. Is it true or wrong explain in each case

Solution:

According to the law of conservation of charge current to the input node of the circuit should be equal to the output current.

Otherwise, the charge would be accumulated in the node.

If $I_{in} - I_{out} = I \neq 0$,

Then $q_n = It \neq 0$

Ultimately, such a charge would compensate the driving force. This happens with the reactive elements

But for active resistor this is not typical.

So $I_{in} - I_{out} = 0$

any equipotential surface of the resistor may be considered like a node.

Then current in any part of the resistor remains unchanged.