Lab 12 – multi-resistor circuit

Calculate the current through each resistor and the voltage across each resistor. Also calculate the resistance of the combinations of resistors requested. Measure the current and voltage for each resistor and compare your predicted value (calculated) to reality (measured values).

RB

RC

RD

RE

RA

Vsource = 12 volts

RA = 560 Ω

RB = 100 Ω

RC = 330 Ω

RD = 220 Ω

RE = 150 Ω

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| resistors in series with source | resistors in parallel with source |  | resistor | calculated voltage in volts | calculated current in amps |  | resistor combination | resistance of combination |
|  |  |  | A |  |  |  | C & D |  |
|  |  |  | B |  |  |  | B, C, D, & E |  |
| series with each other | parallel with each other |  | C |  |  |  | total circuit |  |
|  |  |  | D |  |  |  |  |  |
|  |  |  | E |  |  |  | calculated source current |  |

|  |  |  |
| --- | --- | --- |
| resistor | measured voltage in volts | measured current in mA 🡪 A  ***Show your methods of calculations in the space below or on attached notebook paper.***  ***Answers without work receive severely reduced credit!*** |
| A |  |  |
| B |  |  |
| C |  |  |
| D |  |  |
| E |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
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|  |  |  | D |  |  |  |  |  |
|  |  |  | E |  |  |  | calculated source current |  |

|  |  |  |
| --- | --- | --- |
| resistor | measured voltage in volts | measured current in mA 🡪 A  ***Show your methods of calculations in the space below or on attached notebook paper.***  ***Answers without work receive severely reduced credit!*** |
| A |  |  |
| B |  |  |
| C |  |  |
| D |  |  |
| E |  |  |