Lab 2 Simple DC Circuits

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Table 1: Voltage vs. Current for R_1

	1	2	3	4	5	6
Voltage (V)	1.12	2.02	2.99	3.95	5.07	6.09
Current (I)	0.056	0.103	0.148	0.198	0.250	0.308

$$R_1 = \boxed{19.97 \pm 0.25\Omega} \tag{1}$$

Table 2: Voltage vs. Current for R_2

	1	2	3	4	5	6
Voltage (V)	1.06	1.89	3.12	3.97	4.88	5.90
Current (I)	0.043	0.079	0.132	0.165	0.200	0.249

$$R_2 = \boxed{24.06 \pm 0.4\Omega} \tag{2}$$

Table 3: Voltage vs. Current for R_1 and R_2 in series

	1	2	3	4	5	6
Voltage (V)	0.91	2.09	3.08	3.98	5.01	5.97
Current (I)	0.021	0.048	0.071	0.091	0.114	0.133

$$\begin{aligned} R_S &= R_1 + R_2 \\ &= \boxed{44.03 \pm 0.65\Omega} \end{aligned} \tag{3}$$

Table 4: Voltage vs. Current for R_1 and R_2 in parallel

	1	2	3	4	5	6
Voltage (V)	0.93	2.12	3.10	4.10	5.11	5.99
Current (I)	0.0841	0.1930	0.2880	0.3800	0.4740	0.5540

$$\begin{aligned} R_P &= \frac{R_1 * R_2}{R_1 + R_2} \\ &= \boxed{10.91 \pm 0.15\Omega} \end{aligned} \tag{4}$$