

# Lab 5: Voltage Divider

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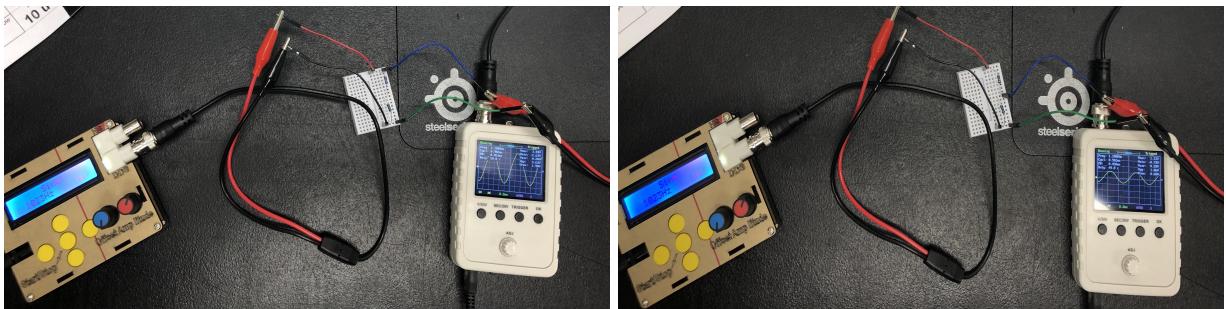
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## Part 1

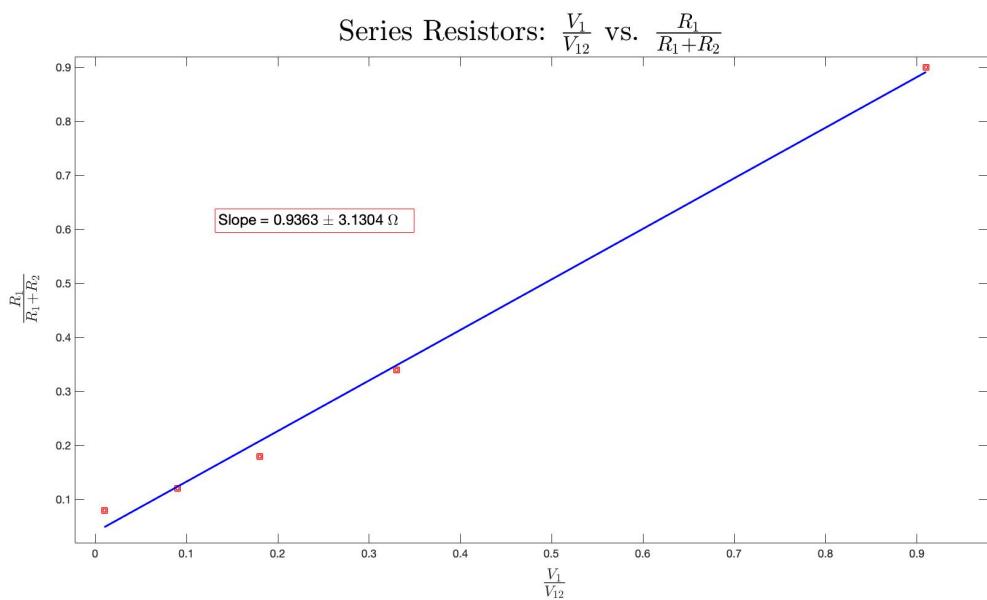
Table 1: Series Resistors

$R_1$	$R_2$	$V_1$	V/DIV for $V_1$	$V_{12}$	$\frac{R_1}{R_1+R_2}$	$\frac{V_1}{V_{12}}$
1k	2k	0.68V	1V	1.98V	0.33k	0.34V
1k	100	1.78V	1V	1.98V	0.91k	0.90V
1k	4.7k	0.36V	1V	1.98V	0.18k	0.18V
1k	10k	0.24V	1V	1.98V	0.09k	0.12V
1k	100k	0.16V	1V	1.98V	0.0099k	0.08V

Picture 1:



Graph 1



## Discussion 1

1. What did you expect to see, and did you see it? If not, why not. If so, how well (quantitatively) did it fit your expectation?

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### Part 2:

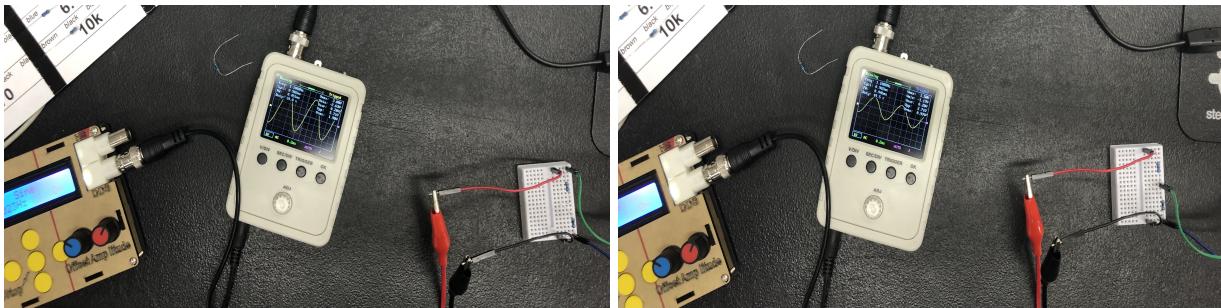
$$V_{23} = V_{123} - V_1$$

$$R_{23,\text{exp}} = V_{23}/I_{23}$$

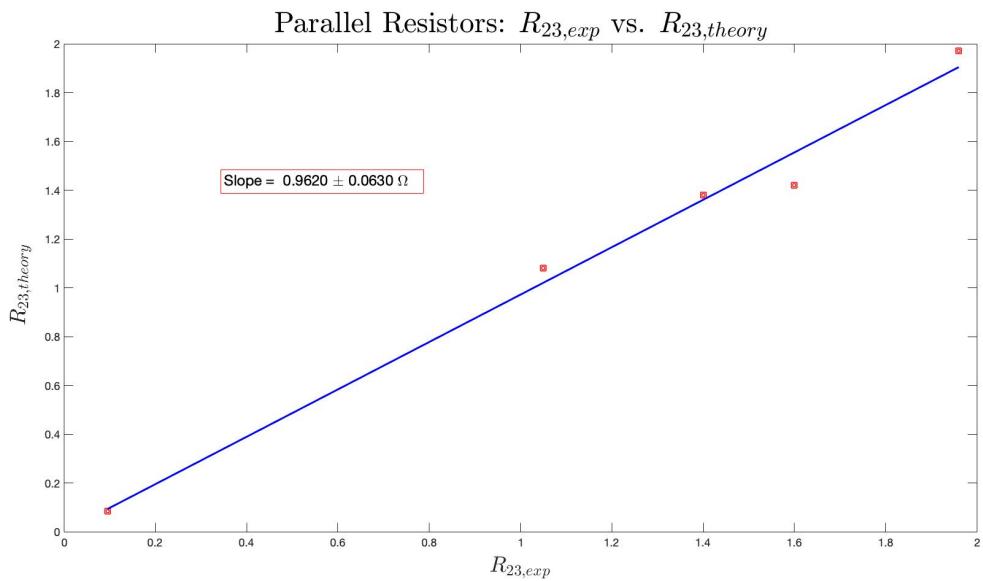
**Table 2: Parallel Resistors**

$R_1$	$R_2$	$R_3$	$V_1$	V/DIV for $V_1$	$I_1 = I_{23}$	$V_{123}$	$V_{23}$	$R_{23,\text{expt}}$	$R_{23,\text{theory}}$
1k	2k	2.2k	0.97V	1V	0.97	1.98V	1.01V	1.04k	1.05k
1k	2k	100	1.90V	1V	1.90	1.98V	0.08V	0.04k	95.24Ω
1k	2k	4.7k	0.73V	1V	0.77V	2.02V	1.25V	1.57k	1.40k
1k	2k	10k	V	1V		1.98V	V	k	1.67k
1k	2k	100k	V	1V	0	1.98V	V	k	1.96k

**Picture 2:**



**Graph 2**



### Discussion 2

- What did you expect to see, and did you see it? If not, why not. If so, how well (quantitatively) did it fit your expectation?

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