* The Experiment

~~30V~~

~~Rx = 5000Ω~~

~~Rx = 11000Ω~~

~~Rx = 30 kΩ~~

The balanced bridge

$R_{appr} = 5 k\Omega$

V	R_V	E_{Rw}
* 30V	$\frac{5}{5}$ kΩ	800 Ω
* 10 V	~~5kΩ~~ 4200Ω	300Ω
* 3V	4700 Ω	100 Ω
* 1V	4700 Ω	50 Ω
* 0.3V	4730 Ω	10Ω
* 0.1 V	4730Ω	2Ω
* 0.03 V	4718Ω	1Ω
* 0.01 V	4718.5Ω	0.4Ω
* 0.003V	4718.6Ω	0.1Ω
* 0.0001V	~~4720Ω~~ 4720Ω	0.052Ω

Bridge Sensitivity

R_V (Ω)	V (V)
4720.2	
4720.6	-1
4721.0	-0.8
4721.4	-0.6±2
4721.8	-0.4±2
4722.2	-0.2±2
4722.6	0
4723.0	0.8
4723.4	0.3±6
4723.8	0.5±6
4724.2	0.7±4
	0.9±6

V (V)	R_V (Ω)	E_{R_V} (Ω)
30	5000	1000
10	5000	300
3	4700	100
1	4700	100
0.3	4700	30
0.1	4708	4
0.03	4708	2
0.01	4707.6	1
0.003	4707.7	0.2
0.001	4707.7	0.1

Bridge Sensitivity

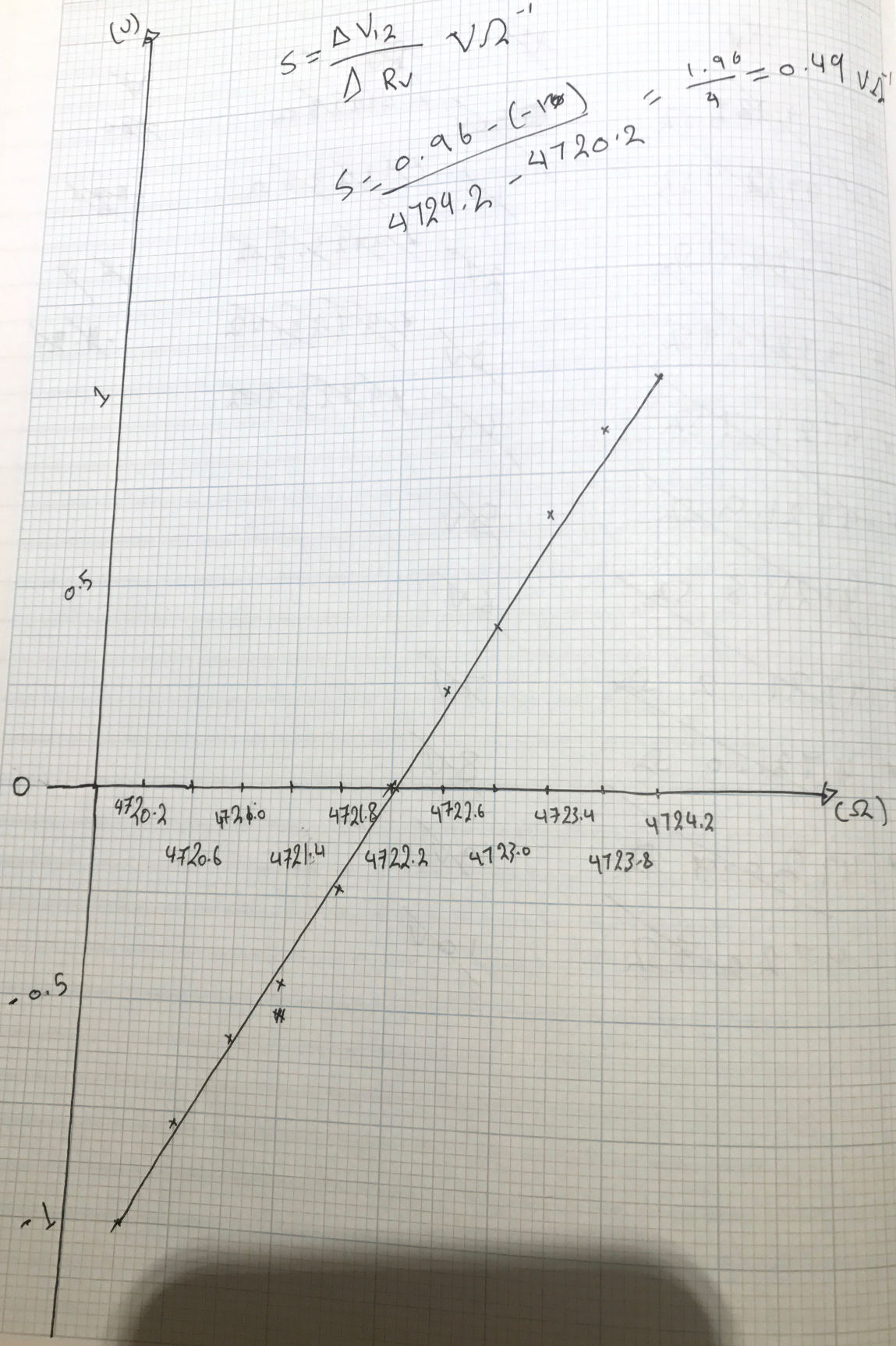
R_v (Ω)	V (v)
4715.0	-0.86
4715.5	-0.78
4716.0	-0.52
4716.5	-0.36
4717.0	-0.18
4717.5	0
4718.0	0.16
4718.5	0.32
4719.0	0.48
4719.5	0.66
4720.0	0.84

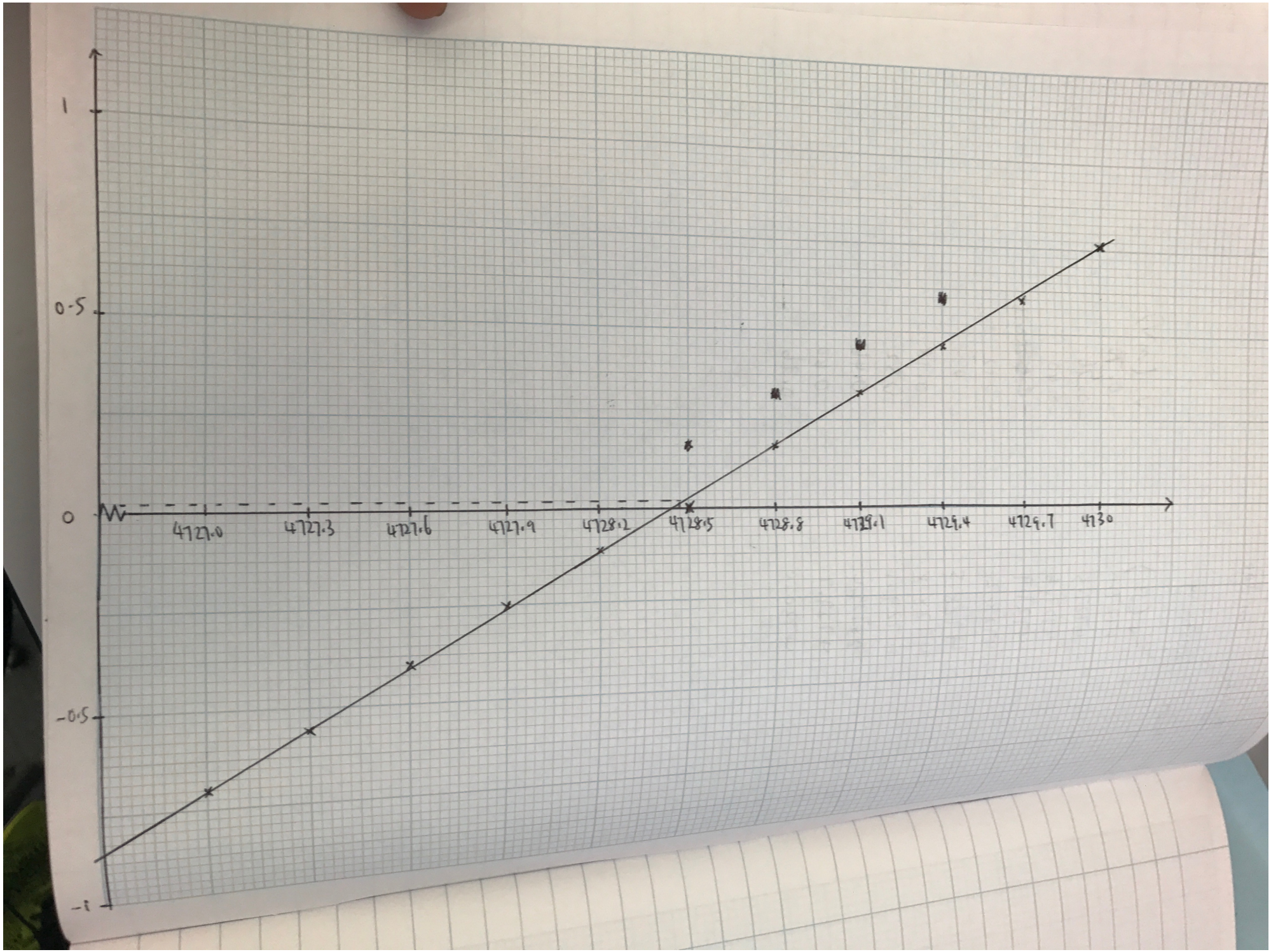
Dynamic bridge

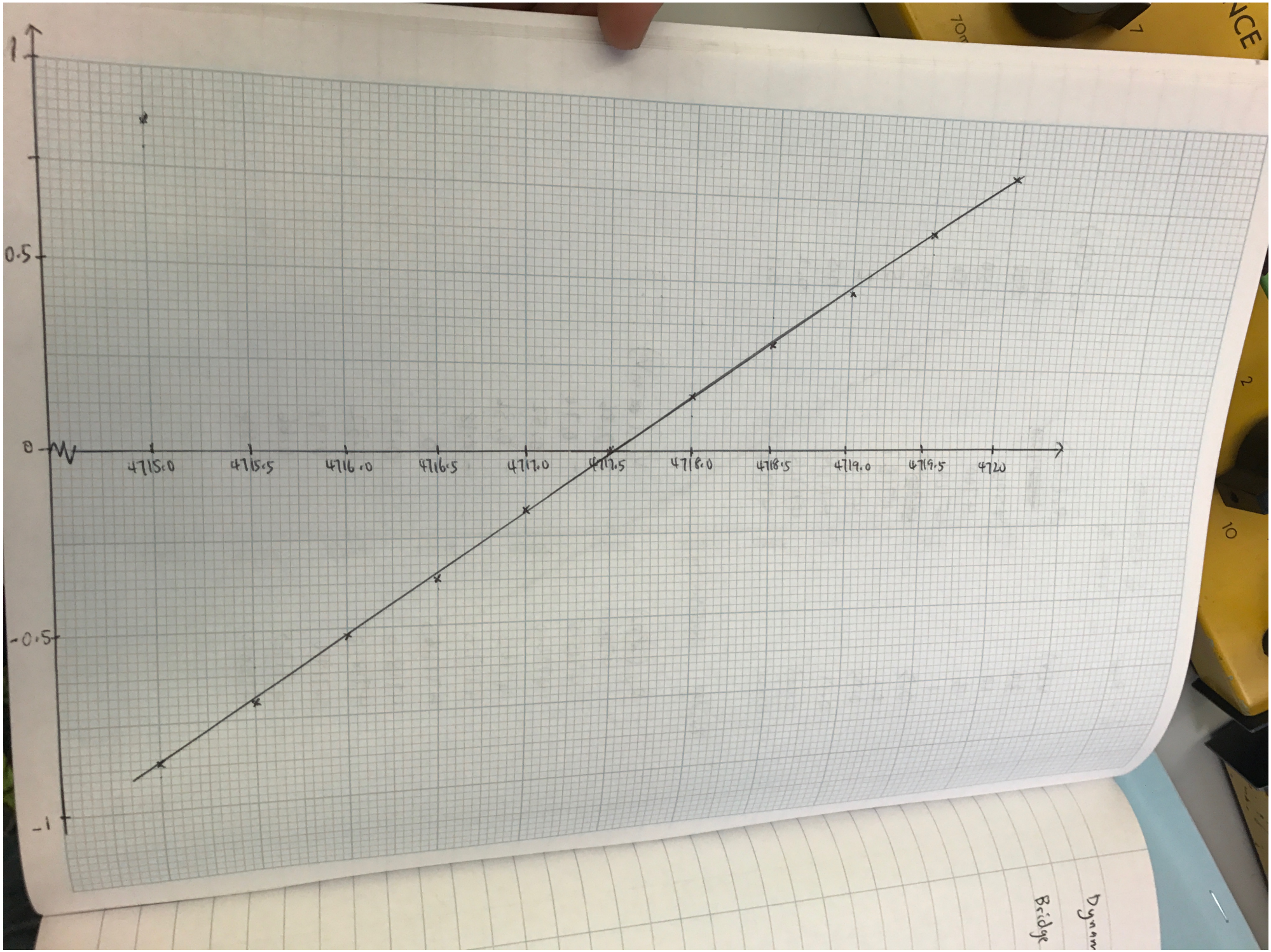
R_v (Ω)	V (v)
4727.0	-0.70
4727.3	-0.56
4727.6	-0.40
4727.9	-0.26
4728.2	-0.12
4728.5	0
4728.8	0.18
4729.1	0.32
4729.4	0.46
4729.7	0.60
4730.0	0.76

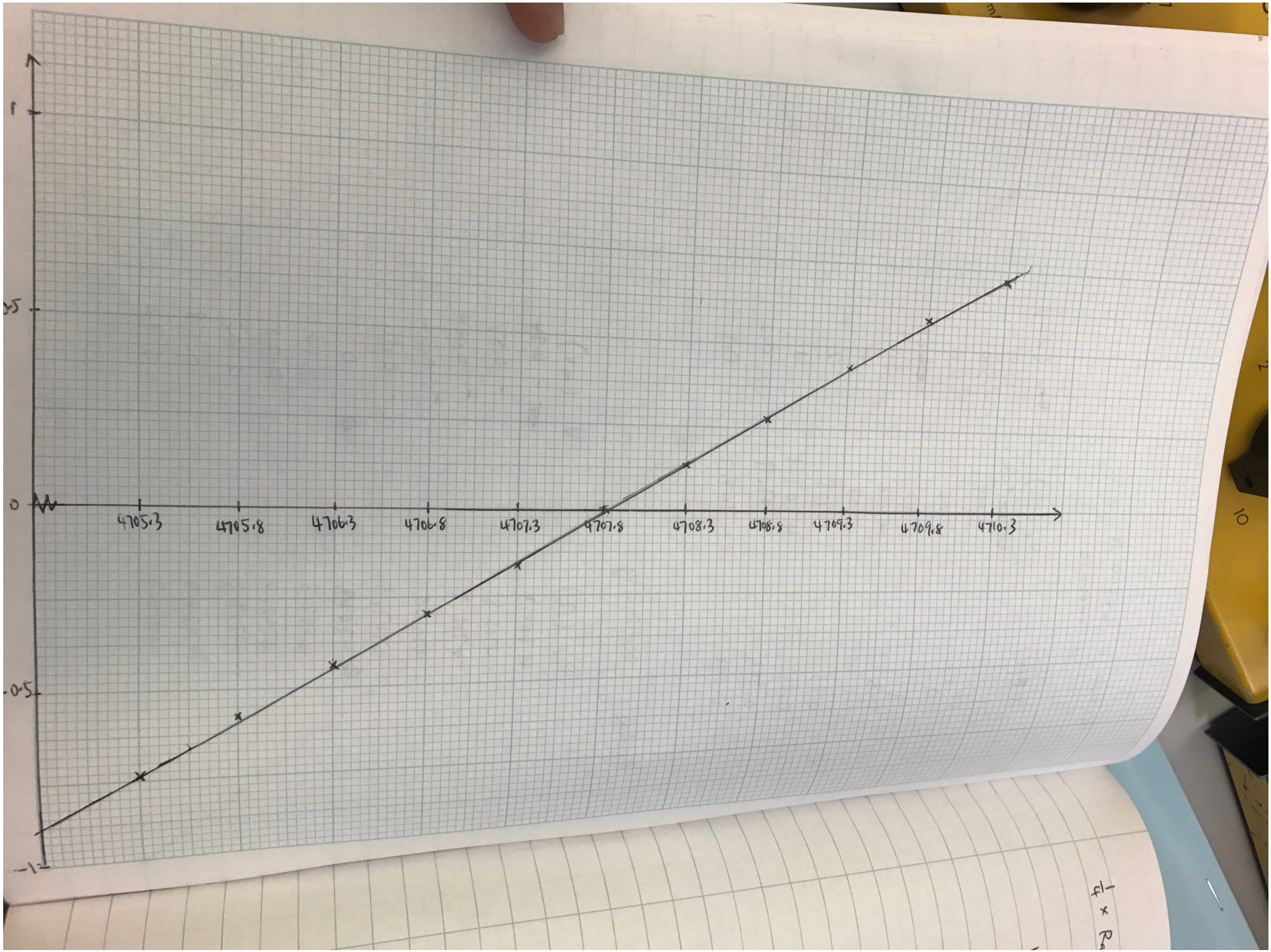
$$S = \frac{\Delta V_{12}}{\Delta R_V} \quad V\Omega^{-1}$$

$$S = \frac{0.96 - (-1.00)}{4724.2 - 4720.2} = \frac{1.96}{4} = 0.49 \; V\Omega^{-1}$$




1
0·5
0
-0·5
-1
4727.0
4727.3
4727.6
4727.9
4728.2
4728.5
4728.8
4729.1
4729.4
4729.7
4730


1
0.5
0
-0.5
-1
4715.0
4715.5
4716.0
4716.5
4717.0
4717.5
4718.0
4718.5
4719.0
4719.5
4720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0
-0.5
-1
4705.3
4705.8
4706.3
4706.8
4707.3
4707.8
4708.3
4708.8
4709.3
4709.8
4710.3