

# Least Squares: DATA

DATA			
x	y	x*y	x^2
cel	ohm	cel*ohm	cel^2
20	761	15220	400
31.5	817	25735.5	992.25
50	874	43700	2500
71.8	917	65840.6	5155.24
91.3	1018	92943.4	8335.69
sum:	264.6	4387	243439.5
avg:	52.92	877.4	
Slope	b	Equation	
3.336577	700.8283	y=33.336577x+700.8283	

$$\text{slope} = \frac{\sum xy - (\sum x)(\text{average of } y)}{\sum x^2 - (\sum x)(\text{average of } x)}$$

Slope y	Slope x	sum x	sum y	sum x*y	y=mx+b
11279.46	3380.548	264.6	4387	243439.5	b=y-mx

The output to the terminal screen must be:

Equation of least squares line:  $y = 3.33658x + 700.82837$

# Least Squares: OTHER DATA

OTHER DATA			
x	y	x*y	x^2
cel	ohm		
0	760	0	0
500	714	357000	250000
1000	673	673000	1000000
1500	631	946500	2250000
2000	594	1188000	4000000
2500	563	1407500	6250000
sum:	7500	3935	4572000
avg:	1250	655.8333	
Slope	b	Equation	
-0.07926	754.9048	y=-0.07926x+754.9048	

$$\text{slope} = \frac{\sum xy - (\sum x)(\text{average of } y)}{\sum x^2 - (\sum x)(\text{average of } x)}$$

Slope y	Slope x	sum x	sum y	sum x*y	y=mx+b
-346750	4375000	7500	3935	4572000	b=y-mx

The data file named another\_test.txt, should have the output to the terminal screen:

**Equation of least squares line: y = -0.07926x + 754.90472**