

1)	x	y	$z \cdot \ln(y)$	xz	x^2	$f(x)$	$y - f(x)$	$[y - f(x)]^2$
	1	50	3.9120	3.9120	1	97.7244	-7.7244	59.6658
	3	12.5	2.9257	7.5772	9	11.8088	0.6912	0.4778
	4	6.2	1.8245	7.2982	16	5.3411	0.8589	0.7377
	5	3.1	1.1314	5.6570	25	2.4158	0.6842	0.4682
	6	0.8	-0.2231	-1.3389	36	1.0926	-0.2926	0.0856
sum	19	72.6	9.1706	23.1056	87	78.38264	-9.7826	61.4351

$$\bar{x} = 19/5 = 3.8$$

$$\bar{y} = 72.6/5 = 1.83411$$

$$\ln b = \frac{\sum (xz) - \bar{x} (\sum \ln y)}{\sum x^2 - n(\bar{x})^2}$$

$$= \frac{23.1056 - (3.8 \cdot 9.1706)}{87 - (5 \cdot 3.8^2)}$$

$$= -0.79342$$

$$\ln a = 1.834112 - (-0.79342) \cdot 3.8$$

$$= 4.8491$$

$$a = e^{\ln a} = e^{4.8491} = 127.6250$$

$$b = e^{\ln b} = e^{-0.79342} = 0.45229668$$

$$\sigma = \sqrt{\frac{\sum [y - f(x)]^2}{n-2}} = \sqrt{\frac{61.4351}{3}} = 4.5253$$

2)	x	y	$\ln(x)$	$\ln(y)$	$\ln(y) \cdot \ln(x)$	$[\ln(x)]^2$	$f(x)$	$y - f(x)$	$(\bar{y} - f(x))^2$
	1	200	0	5.2983	0	0	200.9171	-0.9171	0.8411
	2	1605	0.6931	7.3809	5.1160	0.4805	1588.1551	16.8449	283.7520
	3	5403	1.0986	8.5947	9.4423	1.2069	5322.5127	86.4873	6478.2065
	4	42005	1.3863	9.3931	13.0216	1.9218	2553.6184	348.6184	300982.2006
	5	25010	1.6094	10.1270	16.2988	2.5903	24424.2053	585.7947	343155.4320
sum	15	4423	4.7875	40.7940	43.8787	6.1995	44089.4086	133.5914	650900.4321

$$\ln(\bar{x}) = \frac{4.7875}{5} = 0.9574983$$

$$\ln(\bar{y}) = \frac{40.7940}{5} = 8.1588031$$

$$y = a \cdot x^b$$

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$$b = \frac{\sum (\ln(x) \cdot \ln(y)) - \ln(\bar{x}) \cdot \sum \ln(y)}{\sum [\ln(x)]^2 - n \cdot \ln(\bar{x})^2}$$

$$= \frac{2.982679583}{2.982679583}$$

$$\ln a = \ln(\bar{y}) - b \cdot \ln(\bar{x})$$

$$= 8.1588031 - 2.982679583 \cdot 0.9574983$$

$$= 5.302892339$$

$$a = e^{\ln a} = e^{5.302892339} = 200.9170907$$

$$\sigma = \sqrt{\frac{\sum [y - f(x)]^2}{n-2}} = \sqrt{\frac{650900.4321}{3}} = 465.797$$