

Logarithmic Regression using Microsoft Excel

A logarithmic equation has the general form: $y = m \cdot \ln(x) + b$

Logarithmic data will exhibit a straight-line relationship when graphed with the x values on a log scale and the y values on a linear scale.

Example: Plot y versus x and determine the equation of the logarithmic equation that best fits the data.

x	y
0.10	-2.50
0.15	-2.20
0.22	-1.50
0.34	-1.00
0.50	-0.33
0.75	0.00
1.10	0.45
1.70	1.02
2.60	1.53
3.80	1.99
5.80	2.45
8.90	3.07

- 1) Graph the data using an xy (scatter) plot
- 2) Right-click on the data points or line on the graph and select "Add trendline"
- 3) Pick "Logarithmic" for the type of trendline.
- 4) Under the Options tab add checks to display the equations and R squared
- 5) Change the x-axis to a log scale and y-axis to a linear scale (right click on the axis)

