

## Linear Regression using Microsoft Excel

A linear equation has the general form:  $y = mx + b$

Linear data will exhibit a straight-line relationship when the x values and the y-values are both graphed on linear scales.

Problem 3.4 - Plot P vs Q and find a linear formula that expresses P in terms of Q  
Power vs Discharge for a Sessions pump

Measured data from textbook:

Discharge, Q (L/s)	Power, P (kW)
3.0	28.5
7.0	33.8
10.0	39.1
13.5	43.2
17.0	48.0
20.0	51.8
25.0	60.0

- 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 "Linear" for the type of trendline
- 4) Under the Options tab add checks to display the equations and R squared
- 5) Use linear scales for both the x-axis and the y-axis (right click on the axis to change)

