CHE384 Data to Decisions
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Homework #1 – Practice using Excel for least-squares linear regression

Notes:

- Please name the file using this format: HW1_yourname.xls
- Please email the finished spreadsheet to: chris@lithoguru.com

1. For each of the four data sets found in the Anscombe paper, generate a graph in excel that roughly matches the graph found in the paper.

2. For each of the four Anscombe graphs from problem 1, write your own formulas in excel to calculate $\bar{x}$, $\bar{y}$, var(x), var(y), covar(x,y).

3. For each of the four Anscombe graphs from problem 1, write your own formulas in excel to calculate the least squares regression best fit line: slope (with 95% confidence interval), intercept (with 95% confidence interval), and the R^2 goodness of fit.

4. For each of the four Anscombe graphs from problem 1, add an excel trendline to the graph, linear form, and display the equation and R^2 value on the chart. How do these numbers compare with your calculations?

5. For each of the four Anscombe graphs from problem 1, Use the excel LINEST function to find the least-squares slope (with 95% confidence interval) and intercept (with 95% confidence interval) and R^2. How do these numbers compare with your previous calculations?