

Linear Regression Instructions

Instructions for Excel

To create a trend line (least-squares line of best fit) and find the R^2 -value for a set of data in Excel, just follow these simple steps.

1. Enter the data in two columns, with the horizontal (e.g., x) component in the first column and the vertical (y) in the second.
2. Use the cursor to select the data.
3. With the data selected, click on “Insert”, then “Chart”, then “Scatter”, then choose the first option, “Marked Scatter”. This will create a scatter plot of your data.
4. Right-click on a data point in the scatter plot, and select “Add Trendline”.
5. The default trend line is linear, but at this point you may choose a different function type (polynomial, exponential, etc.) for your trend line by clicking on the “Type” tab.
6. Select “Display equation on chart” and “Display R-squared value on chart” to see the equation and the R^2 value. Note that to compute r for linear trend lines, you need to take the square root of R^2 , and assign the sign based on whether the slope is positive ($R > 0$) or negative ($R < 0$).

Instructions for Google Sheets

To create a trend line (least-squares line of best fit) and find the R^2 -value for a set of data in Google Drive, just follow these simple steps.

1. In a Google Drive, click on “NEW” and select Google Sheets to create a new spreadsheet.
2. Enter the data in two columns, with the horizontal (e.g., x) component in the first column and the vertical (y) in the second.
3. Use the cursor to select the data.
4. With the data selected, click on “Insert”, then “Chart”, then the “Chart Types” tab, then scroll down and choose “Scatter”.
5. Click on the “Customization” tab, scroll down to the very bottom, and select “Linear” from the “Trendline” pull-down menu. (Note that at this point you have the option of selecting a polynomial or exponential trend line instead.)
6. At this point, further options will appear below the “Trendline” pull-down menu. Select “Use equation” from the “Label” pull-down menu, and click the “Show R^2 ” checkbox, to see the equation and the R^2 value displayed on the chart. Note that to compute r for linear trendlines, you need to take the square root of this value, and assign the sign based on whether the slope is positive ($R > 0$) or negative ($R < 0$).