3.5 - Regression using Technology

Instead of estimating a line or curve of best fit, we can use technology!

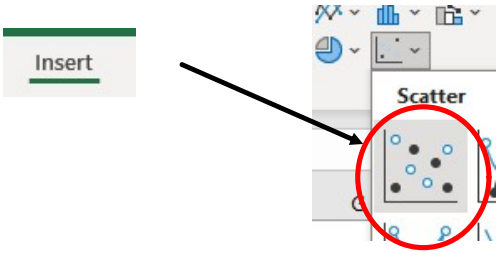
Download "3.5-ExcelData" from my website

How to use Excel for regression analysis

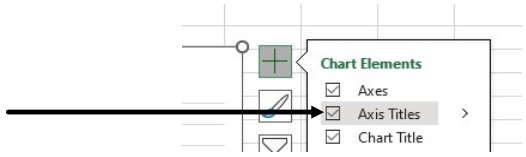
Step 1: Highlight the data you would like to graph

Year	Car Value
0	28,756.00
1	24,442.60
2	20,776.21
3	17,659.78
4	15,010.81
5	12,759.19
6	10,845.31
7	9,218.51
8	7,835.74
9	6,660.38
10	5,661.32

Insert a Scattor Plot

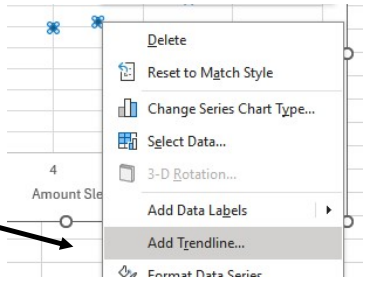


Step 2: Add Axis Titles



Step 3: Change Chart Title, Horizontal Axis and Vertical Axis to appropriately represent the data.

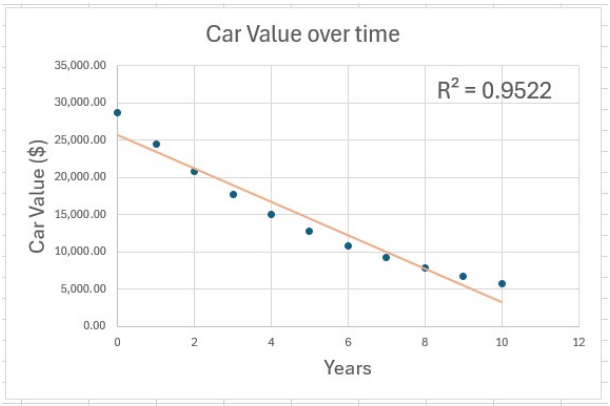
Step 4: Right-click on any data point and choose "Add Trendline"



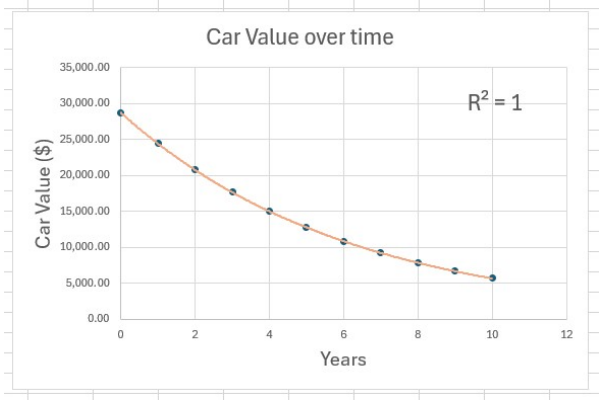
Step 5: Click on the box beside **Show R^2**.

Step 6: Compare the values for R^2 between Linear and Exponential to determine which type of Line/Curve of best fit best represents the data.

Result with a linear regression



Result with a exponential regression



Your turn!

You will work through scenarios 1 - 4 to explore how **interest** rates, types of interest, and how much your **principal** affects how loans or investments grow!

- Read through each scenario
- Perform a regression analysis (type indicated in the questions)
- Answer the questions in the box.

Summary of Finance

How does the amount of your principal affect your investment?

The larger your investment, the more interest you earn.

How does the interest rate affect how much your investment grows?

The larger your interest rate, the more interest you earn

How does simple interest grow?

Grows by a fixed percentage of YOUR ORIGINAL INVESTMENT

How does compound interest grow?

Grows by adding a percentage of the current balance