

LAB ACTIVITY

NAME _____

1. Create a table of data by substituting the following x values into the model equation from question 1 on worksheet 46

Pages (x)	Weight in grams (y)
0	
150	
300	
450	
600	
750	
900	

1. Open up a new spreadsheet in Microsoft Excel. Type in the all the data from the table in **Columns** A and B. Title the columns the same as they are in the table.
2. Hilite the data cells without the titles in the first two columns.

NOTE: Excel will read the data as a set of ordered pairs. The values in the 'A' column are the x coordinates and the B column is the y coordinates.

3. Click on the Chart Wizard icon on the tool bar.
4. Select the *XY scatter* plot option. The first graph option will already be selected. Click the 'next' button at the bottom of the box.
5. Column form is already selected, click 'next' again.
6. In the next dialogue box **format your chart to have titles** (with units)
7. When you finish, **select the dot to**, place the chart as a NEW SHEET. **Click the top "dot"**.
8. Looking at the chart, **select** the "*Chart*" menu at the top and select "*Add Trend line*". Select the **first** option for a linear model. Click OK.

What did the "add trend line" command do?

9. Now, looking at the chart, **select** the trend line and double click it.
10. A new panel appears. Select the "**Options**" tab and at the bottom of the panel find the "display equation on chart" command and select it.

11. **Sketch the graph in your notebook** and answer the following questions **in your notebook**.
12. Looking at the graph explain why you think the equation is called a “linear model”.
13. What is the equation of the trend line?
14. What do you notice about the equation of the line and the original model?
15. How does the graph show that the data has a constant positive rate of change and a starting value of 1050?
16. Forecast forward to find the weight of the textbook with 1200 pages.
17. Why can't the textbook weigh 100 grams?
18. Repeat the above steps to graph the data for **QUESTION 6** on the worksheet

Years (x)	Retained Value (y)
1	
2	
3	
4	
5	
6	

19. **Sketch the graph in your notebook** and answer the following questions for each graph **in your notebook**.
20. What is the equation of the trend line?
21. What do you notice about the equation of the line and the original model?
22. How does the graph show that the data has a constant negative rate of change and a starting value of 20,000?
23. Forecast forward to when the car is worth \$0. After how many years will the car be worthless?
25. Describe where this point is on the graph.
24. If you bought the car in 1980, in what year will it be worthless?