

# How to Make the Part A Graph in Excel (Expt 2, Chem 101)

Mass vs. Volume

This tutorial shows how to create a graph in Microsoft Excel 2007. You may use any graphing software you wish, but your final graph should be similar to the graph depicted here.

This tutorial assumes you know how to open Microsoft Excel, and name & save your file. We will begin the tutorial from that point.

Whenever you see the star symbol: ★  
Please roll over or click it to get more info for that step.

All data used in this tutorial is fictitious and should be used for training purposes only. Students should use their own data on their report graphs.

# Create Column Headings: Volume & Mass

The image shows a screenshot of the Microsoft Excel interface. The ribbon is set to 'Page Layout'. The active cell is A1, and the formula bar contains the text 'Volume'. The spreadsheet grid shows columns A, B, and C, and rows 1 through 8. In row 1, column A contains the text 'Volume' and column B contains the text 'Mass'. A red star is positioned to the left of row 1, with a red arrow pointing to the cell A1. Two red arrows point upwards from row 7 to row 1, one under column A and one under column B. Red stars are placed in row 7, column A and row 7, column B.

	A	B	C
1	Volume	Mass	
2			
3			
4			
5			
6			
7			
8			

# Type in Your Data



The screenshot shows the Microsoft Excel interface. The ribbon includes 'Home', 'Insert', 'Page Layout', and 'Formulas'. The 'Workbook Views' group is active, showing 'Normal', 'Page Layout', 'Page Break Preview', 'Custom Views', and 'Full Screen'. The 'Ruler', 'Gridlines', and 'Message Bar' options are visible. The active cell is E10. The data table is as follows:

	A	B	C
1	Volume	Mass	
2	1.5	4.5231	
3	2.3	6.8429	
4	3.1	9.2073	
5	4.4	13.0965	
6			
7			
8			
9			
10			

Red annotations include a star above the title, a star to the left of row 3, a star to the right of row 3, and red brackets grouping rows 2 through 5.

# Highlight Data - Insert Tab - Scatter Chart

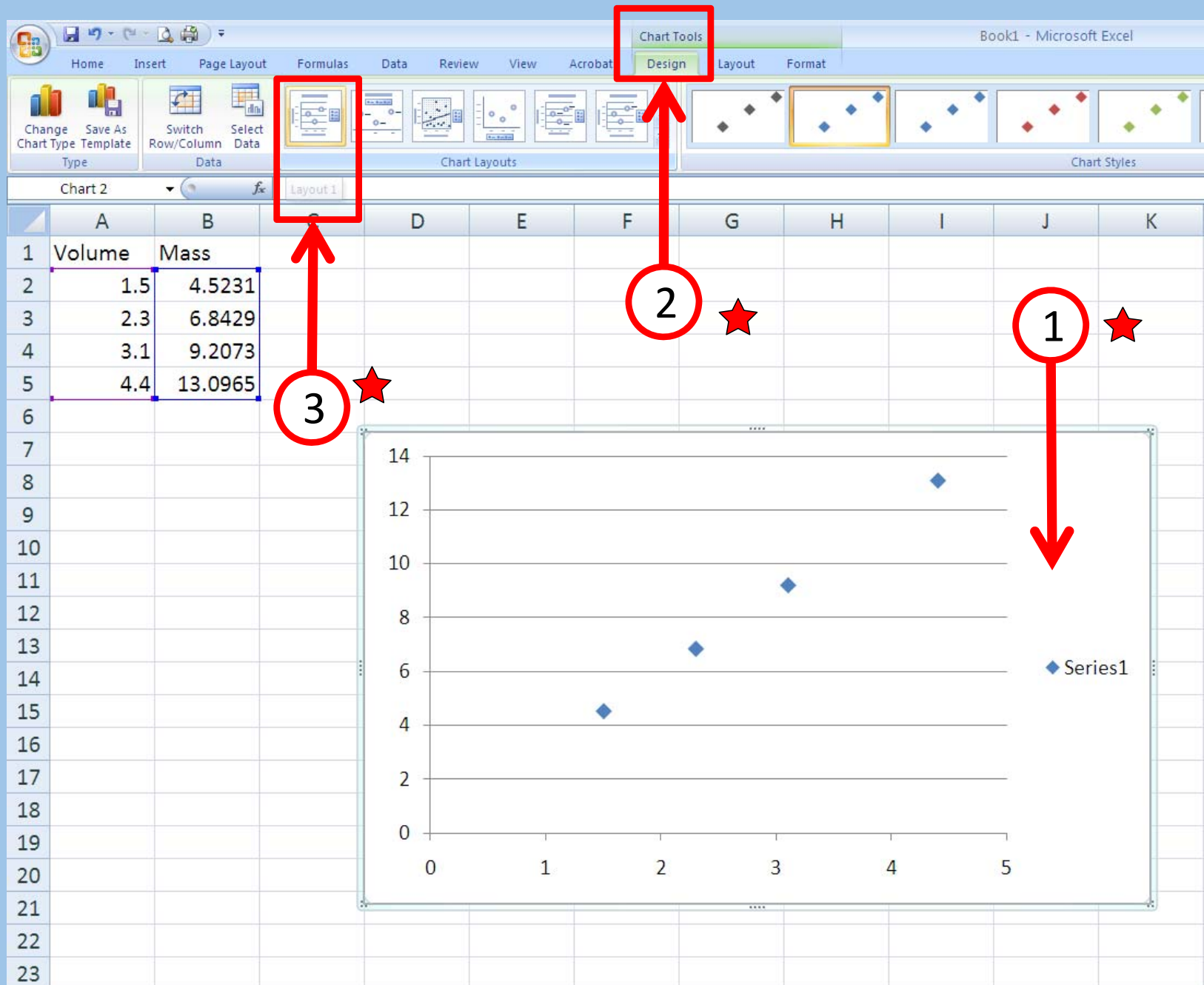
The screenshot illustrates the steps to create a scatter chart in Excel. The 'Insert' tab is selected, and the 'Charts' group is expanded to show the 'Scatter' chart type. The data range A2:B5 is highlighted in the worksheet.

	A	B	C	D	E
1	Volume	Mass			
2	1.5	4.5231			
3	2.3	6.8429			
4	3.1	9.2073			
5	4.4	13.0965			
6					
7					
8					
9					
10					

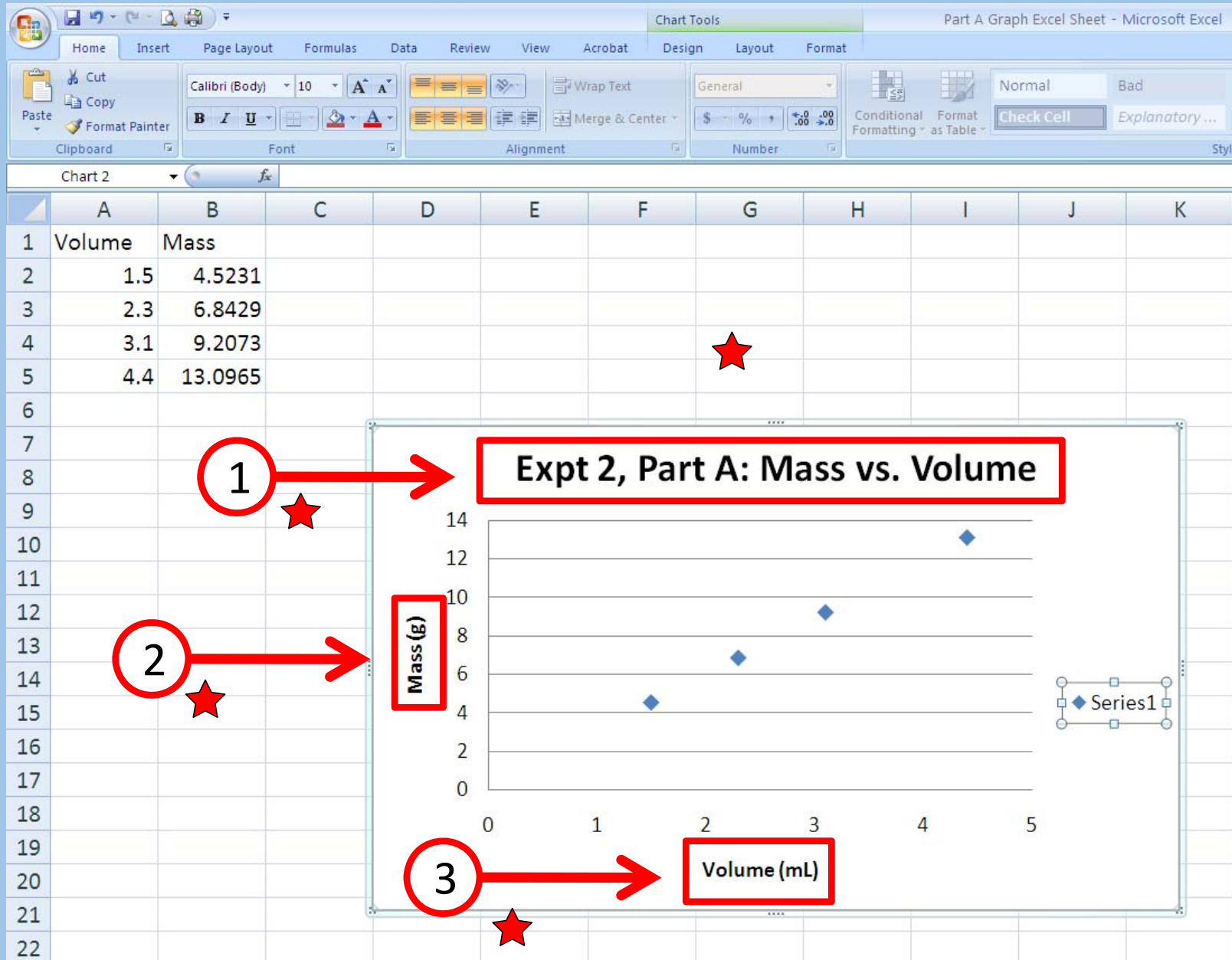
Annotations:

- 1: Points to the highlighted data range (A2:B5).
- 2: Points to the 'Insert' tab.
- 3: Points to the 'Scatter' chart type in the 'Charts' group.
- 4: Points to the 'Scatter' chart type in the 'Scatter' dropdown menu.

# Click Graph - Chart Tools - Chart Layout



# Renaming Chart Elements





# Layout Tab - Trendline - More Trendline Options

The image shows the Microsoft Excel interface with the Chart Tools ribbon expanded to the Layout tab. The ribbon contains several groups of icons: Labels, Axes, Background, Trendline, Lines, Up/Down Bars, and Error Bars. A red star and a circled number '2' are placed above the Layout tab. A red arrow points from this star to the Trendline icon, which is also circled with a red '3' and has another red star above it. A red arrow points from the Trendline icon to a context menu that is open, showing options for trendlines. A red star and a circled number '4' are placed above the 'More Trendline Options...' button at the bottom of the menu. A red arrow points from this star to the chart area. A circled number '1' with a red star is placed to the left of the chart area, with a red arrow pointing to the chart title.

**Chart Title:** Expt 2, Part A: Mass vs. Volume

**Y-axis Label:** (g)

Y-axis Value (g)	Series
9	Blue Diamond
13	Blue Diamond

**Context Menu Options:**

- None: Removes the selected Trendline or all Trendlines if none are selected
- Linear Trendline: Adds/sets a Linear Trendline for the selected chart series
- Exponential Trendline: Adds/sets an Exponential Trendline for the selected chart series
- Linear Forecast Trendline: Adds/sets a Linear Trendline with 2 period forecast for the selected chart series
- Two Period Moving Average: Adds/sets a 2 Period Moving Average Trendline for the selected chart series

**More Trendline Options...**



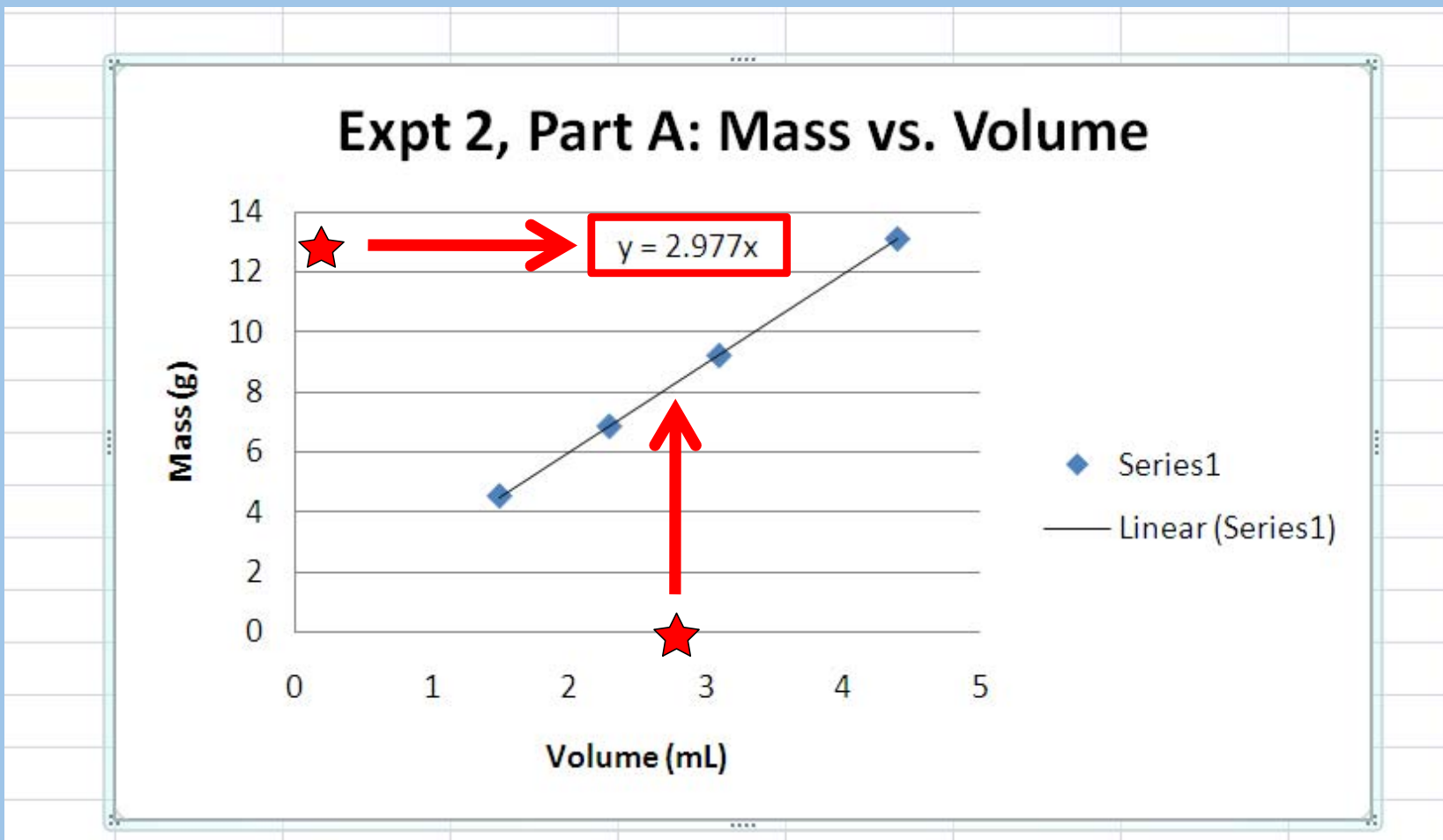
# Format Trendline: Options

The image shows the 'Format Trendline' dialog box in Microsoft Excel. The dialog is titled 'Format Trendline' and has a blue header bar with a help icon and a close button. On the left side, there is a vertical list of options: 'Trendline Options' (highlighted in yellow), 'Line Color', 'Line Style', and 'Shadow'. A red circle with the number '1' and a red arrow points to the 'Trendline Options' tab. The main area of the dialog is titled 'Trendline Options' and contains several sections:

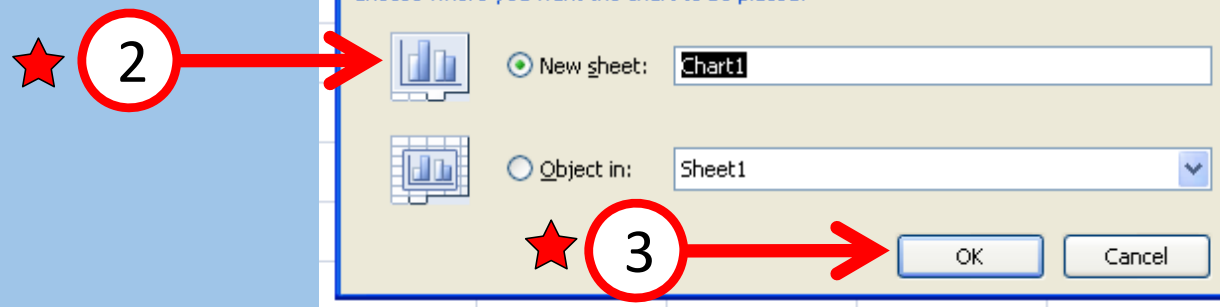
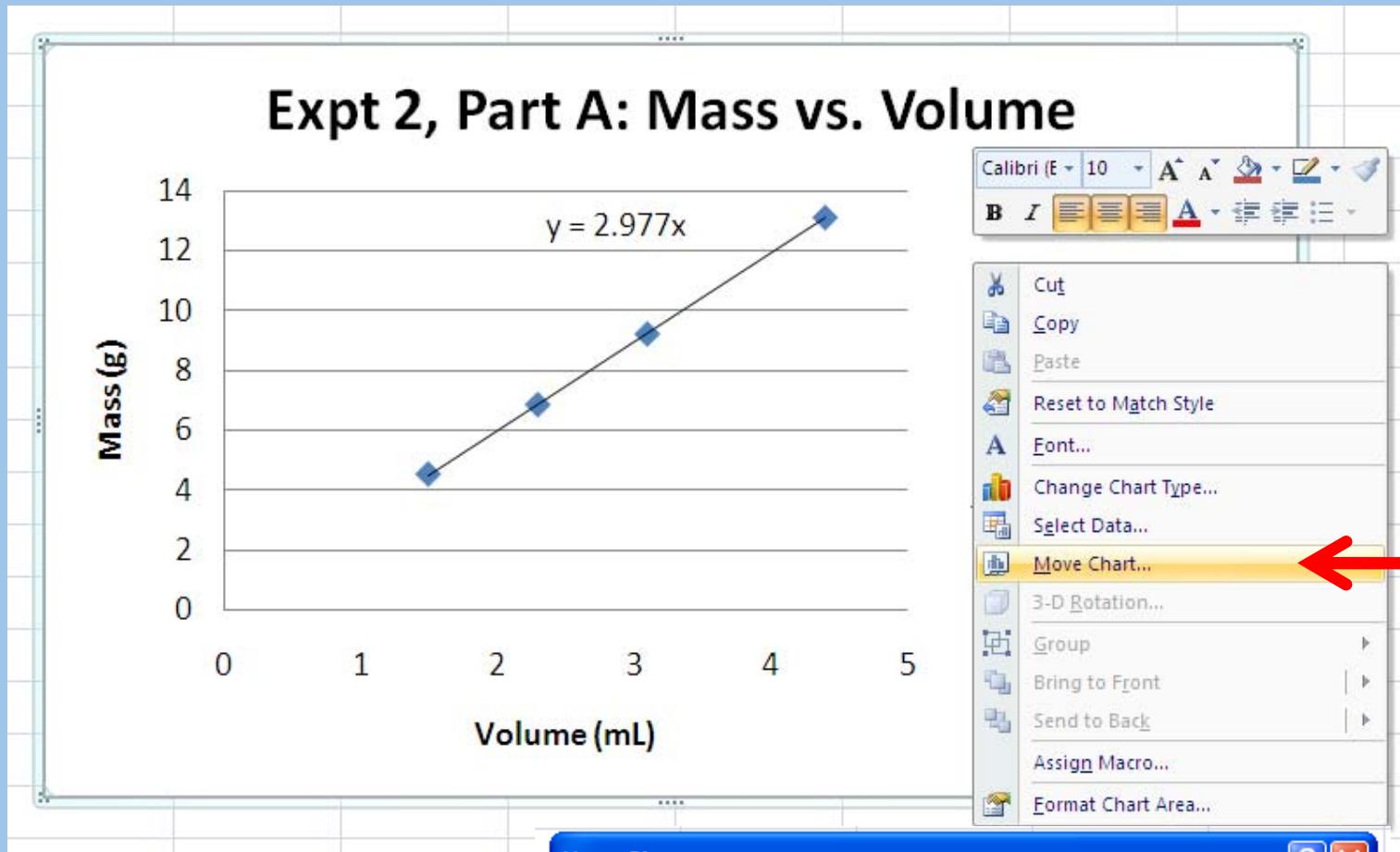
- Trend/Regression Type:** This section contains six radio button options, each with a small chart icon: 'Exponential', 'Linear' (selected), 'Logarithmic', 'Polynomial' (with an 'Order' dropdown set to 2), 'Power', and 'Moving Average' (with a 'Period' dropdown set to 2).
- Trendline Name:** This section has two radio button options: 'Automatic' (selected) and 'Custom'. The 'Automatic' option shows 'Linear (Series1)' in a text box.
- Forecast:** This section has two text boxes: 'Forward: 0.0 periods' and 'Backward: 0.0 periods'.
- Checkboxes:** There are three checkboxes: 'Set Intercept = 0.0' (checked), 'Display Equation on chart' (checked), and 'Display R-squared value on chart' (unchecked).

At the bottom right of the dialog is a 'Close' button. A red circle with the number '4' and a red arrow points to this button. On the left side, there are two more red circles with numbers '2' and '3', each with a red arrow pointing to the 'Forecast' and 'Display Equation on chart' sections respectively. There are also four red stars scattered around the dialog box.

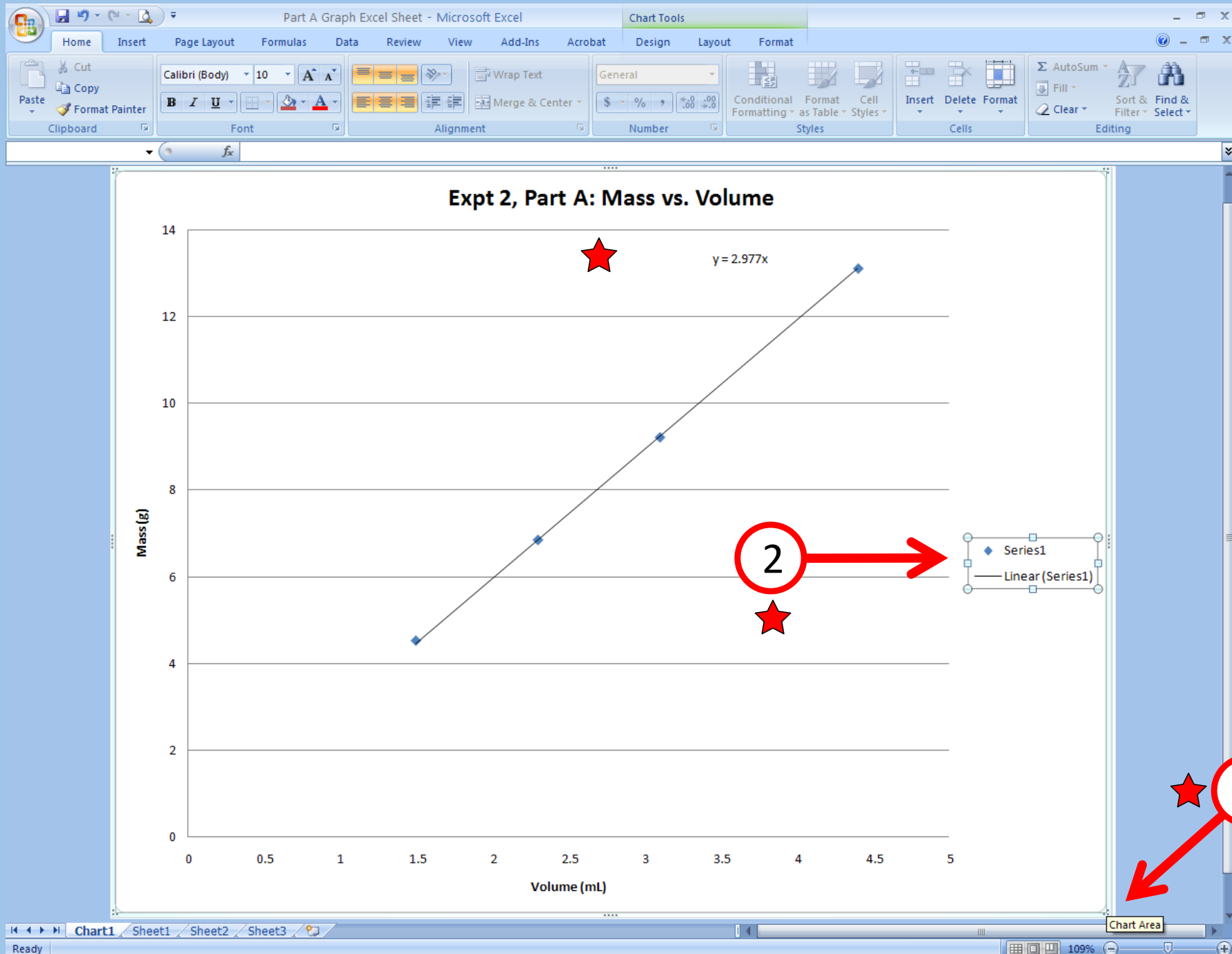
# Formatted Trendline



# Move Chart to New Sheet



# Delete Legend & Expand Graph to Full Page



# Page Layout – Adjust Margins

The screenshot shows the Microsoft Excel interface with the Page Layout ribbon selected. Three red annotations are present: a circle with the number '1' and a star pointing to the Page Layout ribbon; a circle with the number '2' and a star pointing to the Margins button; and a circle with the number '3' and a star pointing to the Custom Margins... button at the bottom of the Margins task pane.

**Page Layout Ribbon**

- Home
- Insert
- Page Layout
- References
- View
- Add-Ins
- Acrobat

**Margins Task Pane**

**Last Custom Setting**

Top: 0.5"	Bottom: 0.5"
Left: 0.5"	Right: 0.5"
Header: 0"	Footer: 0"

**Normal**

Top: 0.75"	Bottom: 0.75"
Left: 0.7"	Right: 0.7"
Header: 0.3"	Footer: 0.3"

**Wide**

Top: 1"	Bottom: 1"
Left: 1"	Right: 1"
Header: 0.5"	Footer: 0.5"

**Narrow**

Top: 0.75"	Bottom: 0.75"
Left: 0.25"	Right: 0.25"
Header: 0.3"	Footer: 0.3"

**Custom Margins...**

**Worksheet Content**

Part A Graph Excel Sheet - Microsoft Excel

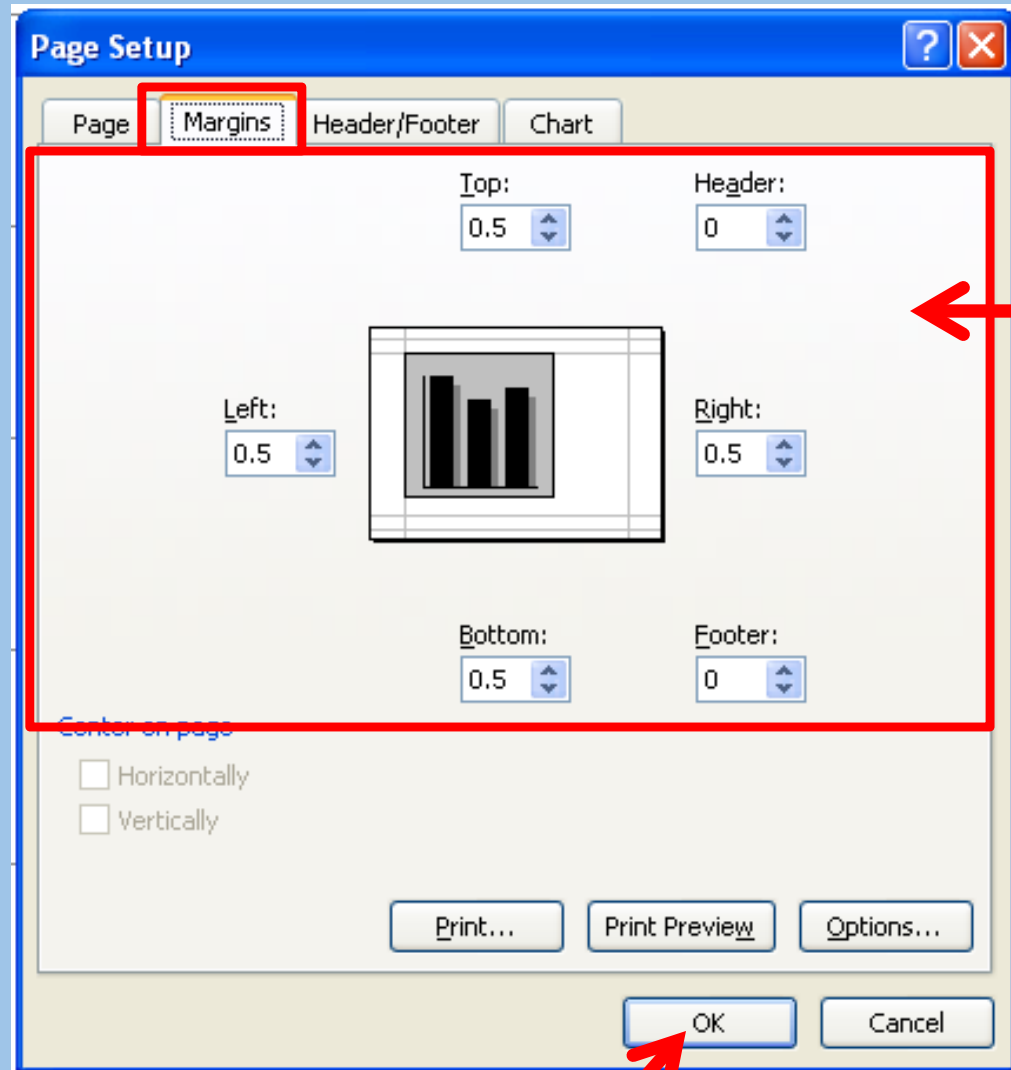
Expt 2, Part A: Mass vs. Volume

Mass (g)

8
6

Graph showing a linear relationship between Mass (g) and Volume (mL).

Margins: 0.5 for All; Header/Footer: 0 for Both



1

2



# Your Part A Graph is done & Ready to Print!

