

# How to add a straight line over a scatter plot chart

Step by step tutorial

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PivotTable Recommended PivotTables

Tables

Illustrations

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Add-ins

Recommended Charts

Maps PivotChart

3D Map

Tours

Line Column Win/Loss

Sparklines

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B2

	A	B	C	D	E	F	G	H
1		<b>Actual data</b>			<b>Overlaying line</b>			
2		Q	P		Q	P		
3			1	8		1	8	
4			34	5		99		
5			80	3.3				
6			17	4.3				
7			99	1				
8			54	3.5				
9			9	7				
10			40	3				
11			45	5.6				
12			43	5				
13			22	6.1				
14			65	6				



Scatter

Use this chart type to:

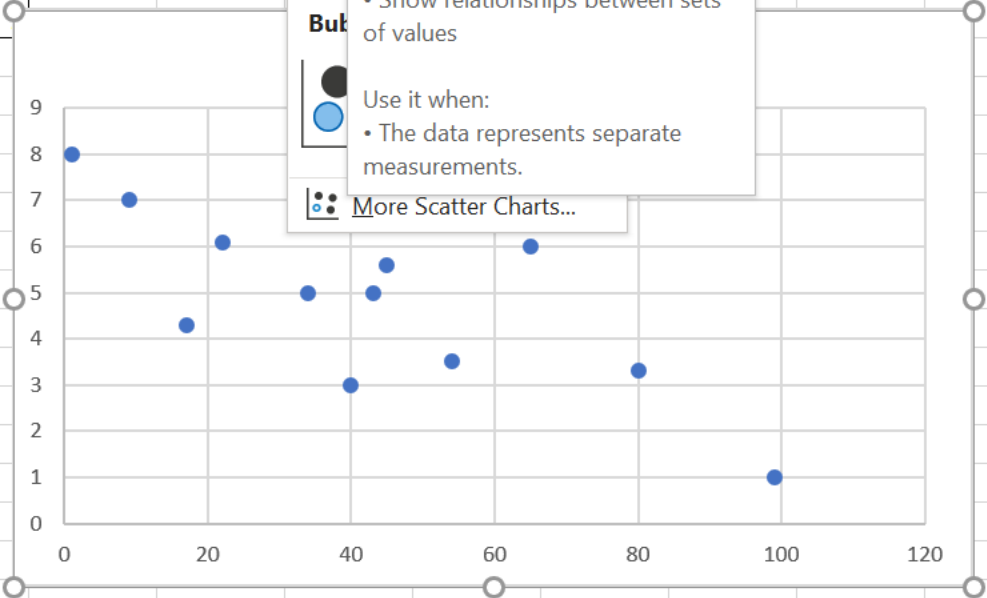
- Compare at least two sets of values or pairs of data.
- Show relationships between sets of values

But

Use it when:


- The data represents separate measurements.

More Scatter Charts...



In my setup, I have my actual data on the far left. Further to the right I have the coordinates of two points on the straight line I want to plot. For your assignment you want to have two points on the estimated demand function that you calculate using your regression results.

Step 1: plot your actual data as a scatter plot

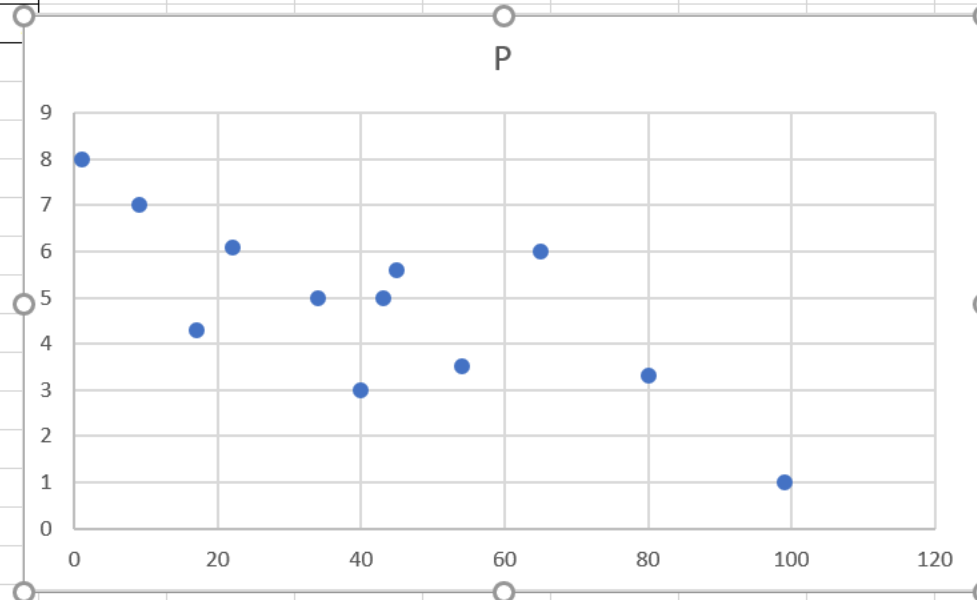


Move  
Chart

Location

$\times$	$\checkmark$	$f_x$
----------	--------------	-------

E	F
Overlaying line	
Q	P
1	8
99	



The next step is to plot a straight line on top.

Add Chart Element Quick Layout

Change Colors

Chart Layouts

Chart Styles




Switch Row/Select Data

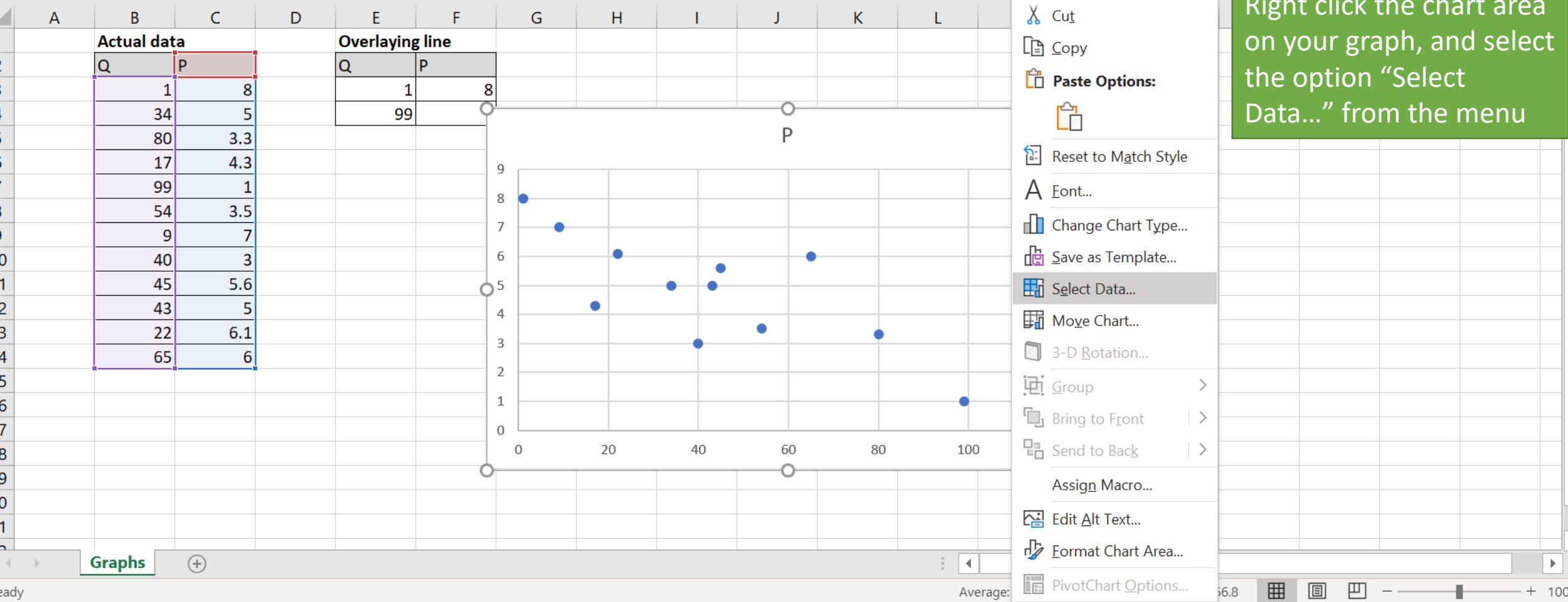
Change Chart Type

Move Chart

TypeLocation

Chart 2





FillOutline

Chart Area

- Cut
- Copy
- Paste Options:
- Reset to Match Style
- Font...
- Change Chart Type...
- Save as Template...
- Select Data...
- Move Chart...
- 3-D Rotation...
- Group
- Bring to Front
- Send to Back
- Assign Macro...
- Edit Alt Text...
- Format Chart Area...
- PivotChart Options...

Right click the chart area on your graph, and select the option "Select Data..." from the menu



Add Chart Quick  
Element ▾ Layout ▾



Change  
Colors ▾



## Chart Layouts

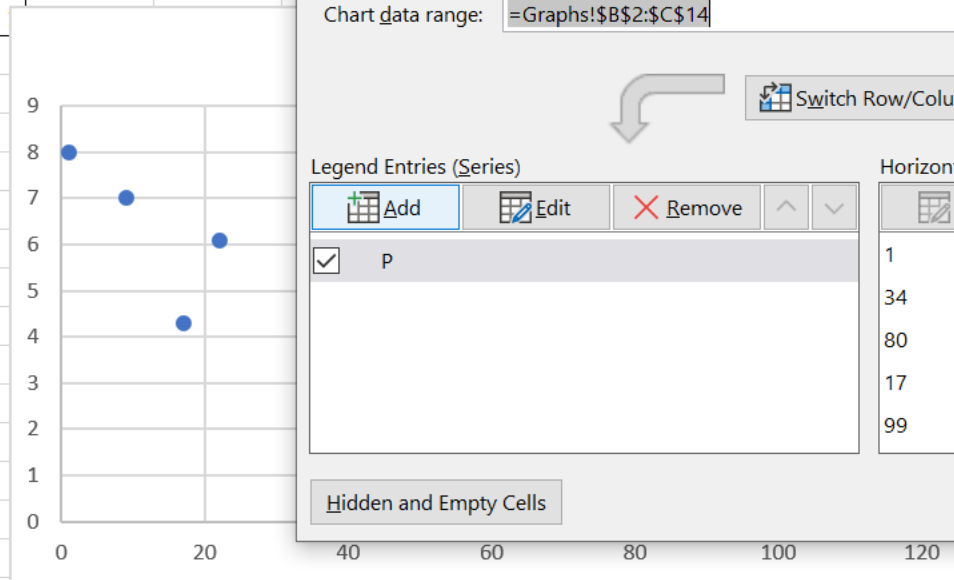
## Chart Styles

This window will come up. You can see that the chart has only one series (here labeled P). We are going to add another one.

Click on the “Add” button.


Actual data	
Q	P
1	8
34	5
80	3.3
17	4.3
99	1
54	3.5
9	7
40	3
45	5.6
43	5
22	6.1
65	6

Overlaying line	
Q	P
1	8
99	








Select Data Source

Chart data range:


 Switch Row/Column

Legend Entries (Series)

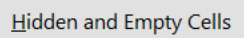
 Add  Edit  Remove  

☒ P

Horizontal (Category) Axis Labels

 Edit

1  
34  
80  
17  
99

 Hidden and Empty Cells: Show all data

OK Cancel



File Home Insert Draw Page Layout Formulas Data

Add Chart Element Quick Layout Chart Layouts

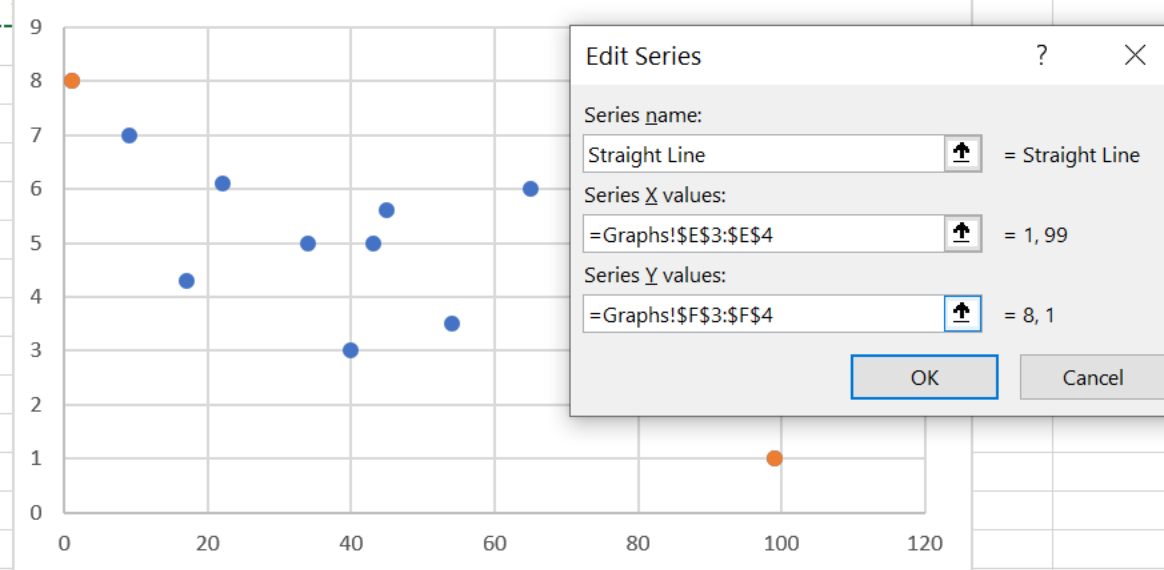
Change Colors

On the window that pops up, you will manually write the name of your new series. I called mine "Straight Line".

Then, for the Series X values part, select both of the x coordinates of the straight line's two points. In my case, it is cells E3 and E4 and correspond to my two Q levels.

Analogously, for the Series Y values select both of the Y coordinates of the straight line's two points. In my case those are in cells F3 and F4, and correspond to my two price levels.

	A	B	C	D	E	F	G
1		<b>Actual data</b>			<b>Overlying line</b>		
2		Q	P		Q	P	
3		1	8		1	8	
4		34	5		99		
5		80	3.3				
6		17	4.3				
7		99	1				
8		54	3.5				
9		9	7				
10		40	3				
11		45	5.6				
12		43	5				
13		22	6.1				
14		65	6				



Next, click ok and ok again

File Home Insert Draw Page Layout Formulas Data Review

Add Chart Element Quick Layout Chart Layouts

Change Colors

Now my chart shows the two points of the "straight line" series in orange. Right now, they are graphed as a scatterplot also, and I want to change that to be a straight line. Select either one of those two points (in my case, shown in orange), and right click. The menu below should pop up. Select the option "Change Series Chart Type"

Chart 2 =SERIES("Straight Line",Graphs!\$E\$3:\$E\$4

	A	B	C	D	E	F	G	H
1		<b>Actual data</b>			<b>Overlaying line</b>			
2		Q	P		Q	P		
3			1	8		1	8	
4			34	5		99		
5			80	3.3				
6			17	4.3				
7			99	1				
8			54	3.5				
9			9	7				
10			40	3				
11			45	5.6				
12			43	5				
13			22	6.1				
14			65	6				

Series "Straight"

Fill Outline

- Delete Series
- Reset to Match Style
- Change Series Chart Type...
- Select Data...
- 3-D Rotation...
- Add Data Label
- Add Trendline...
- Format Data Point...

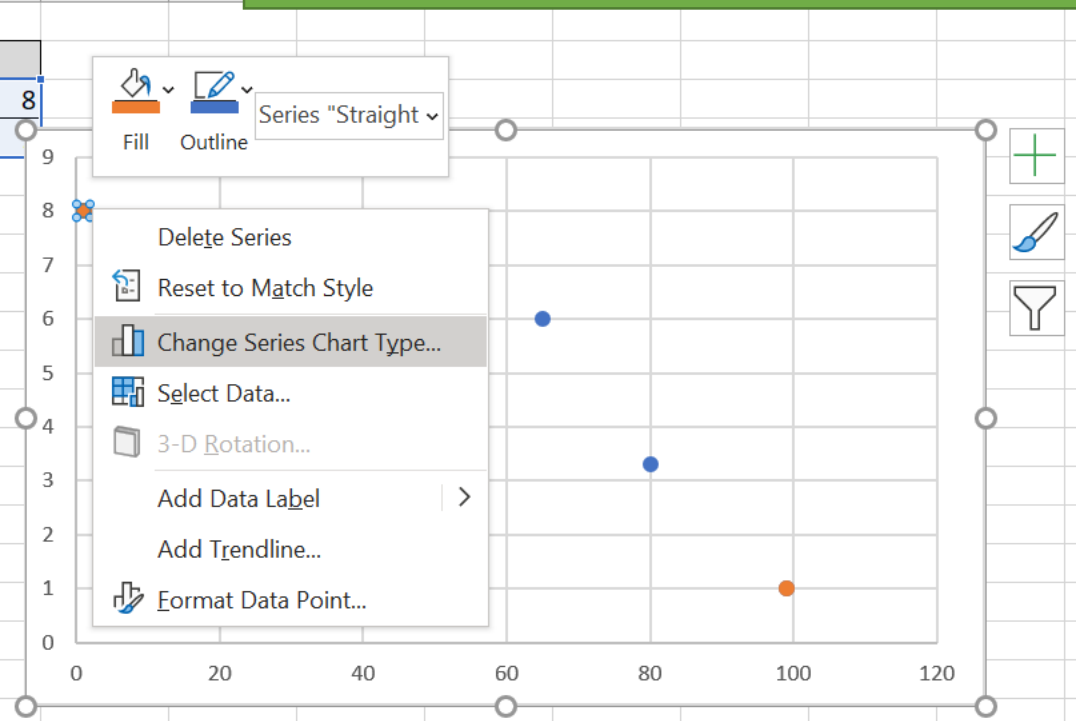


Chart Tools: Design, Layout, Format

Graphs

	Actual data		Overla
	Q	P	Q
1			
2			
3		1	8
4		34	5
5		80	3.3
6		17	4.3
7		99	1
8		54	3.5
9		9	7
10		40	3
11		45	5.6
12		43	5
13		22	6.1
14		65	6

Change Chart Type

Recommended Charts

All Charts

Recent

Templates

Column

Line

Pie

Bar

Area

X Y (Scatter)

Map

Stock

Surface

Radar

Treemap

Sunburst

Histogram

Box & Whisker

Waterfall

Funnel

Combo

Custom Combination

Choose the chart type and axis for your data series

Series Name

P

Straight Line

Line

Area

Pie

X Y (Scatter)

OK

Cancel

Then, this new window will appear. For the orange series, labeled Straight Line, change the Chart Type from the dropdown menu, and select Scatter with Smooth Lines. Click ok.



File Home Insert Draw Page Layout

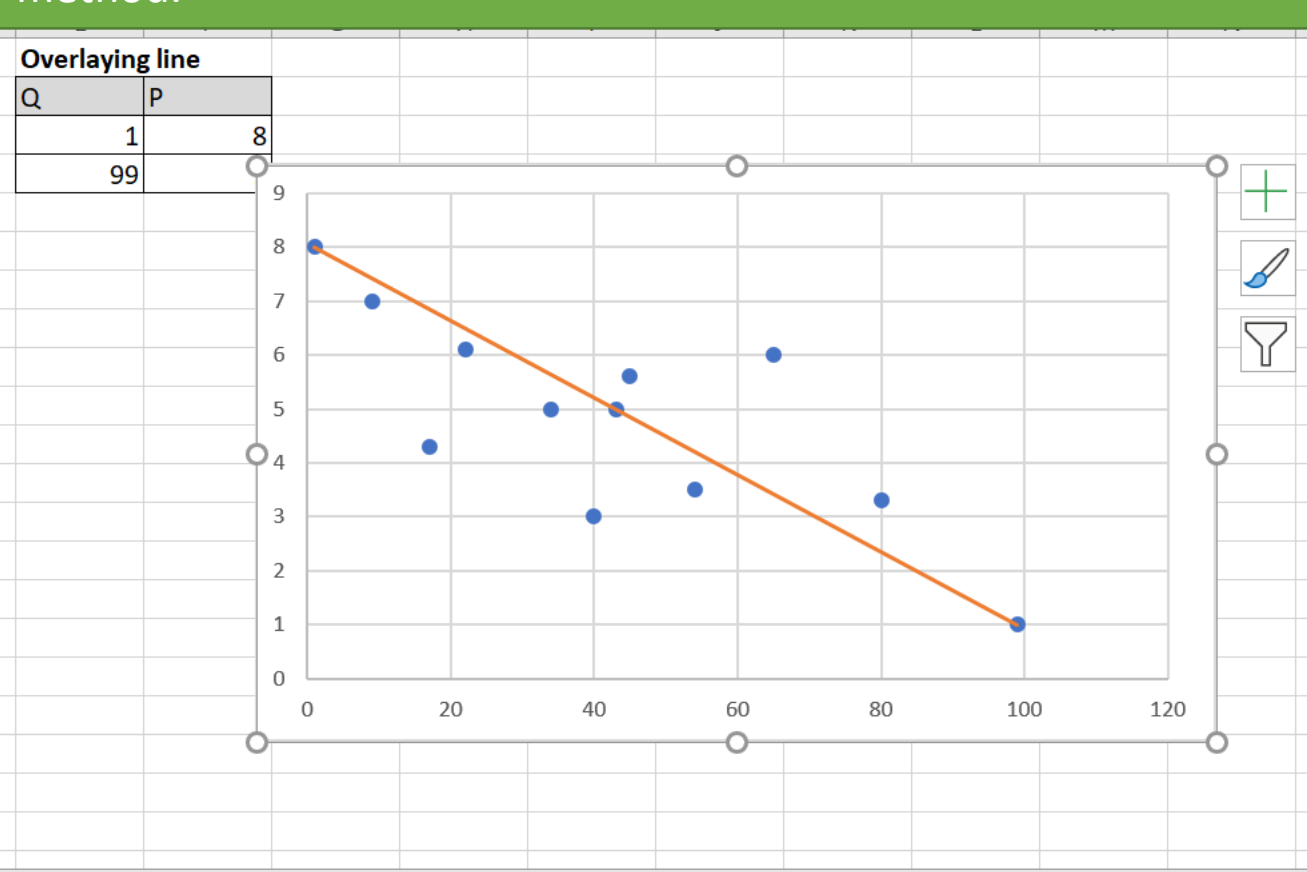
Add Chart Element Quick Layout Chart Layouts

Change Colors

And voila! You now have both series on the same chart: one as a scatter plot and the other as a straight line.

For your assignment, you will choose two levels of P, and estimate quantity demanded for those prices using your regression coefficients. Pay attention to how you calculate the corresponding estimated quantity demanded. You can add as many different lines on the same chart using this method.

	A	B	C	D
1		<b>Actual data</b>		
2		Q	P	
3		1	8	
4		34	5	
5		80	3.3	
6		17	4.3	
7		99	1	
8		54	3.5	
9		9	7	
10		40	3	
11		45	5.6	
12		43	5	
13		22	6.1	
14		65	6	



Hint: because I want to draw a straight line, two points are enough. I do not need to calculate more points on the line. However, bear in mind that with this method, excel will draw a line that connects the two points that you provide, so make sure you choose the point where you want the line to begin and the one where you want it to end