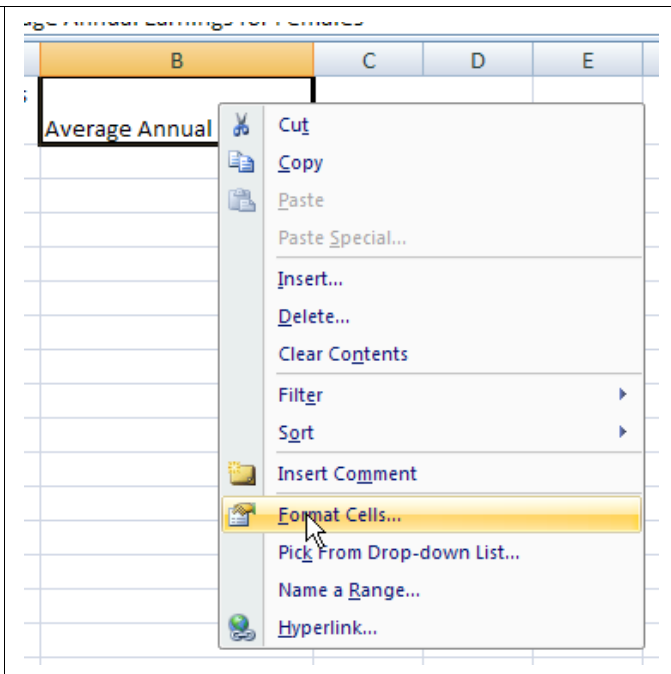


This example demonstrates how to use Excel 2007 to find a linear model. The independent variable  $x$  represents the earning for males and the dependent variable  $y$  represents earnings for females.

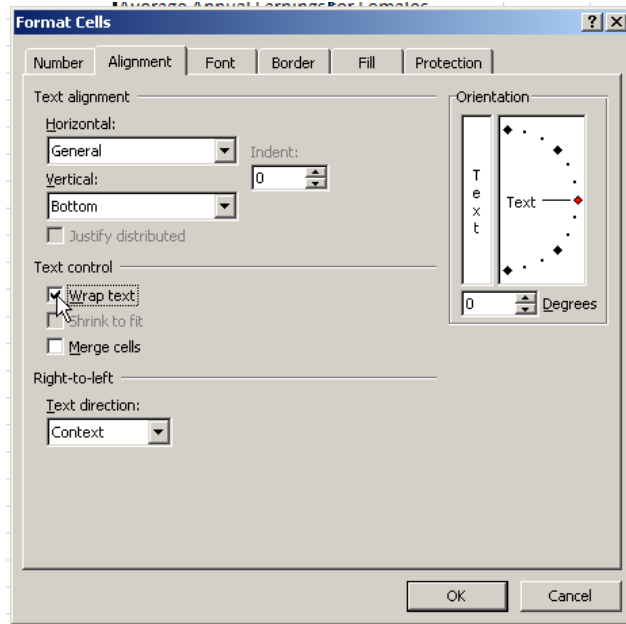
<b>Educational Attainment</b>	<b>Average Annual Earning for Males (\$ thousand)</b>	<b>Average Annual Earning for Females (\$ thousand)</b>
Less than ninth grade	21.659	17.659
Some high school	26.277	19.162
High school graduate	35.725	26.029
Some college	41.875	30.816
Associate's degree	44.404	33.481
Bachelor's degree	57.220	41.681
Master's degree	71.530	51.316
Doctorate degree	82.401	68.875
Professional degree	100.000	75.036

### Enter the data

1. In your Excel worksheet, click on cell A1 and type the heading "Average Annual Earnings for Males".
2. Click on cell B1 and type the heading "Average Annual Earnings for Females".
3. Right mouse click on cell B1 and select **Format Cells...** from the choices that appear.



4. Select the **Alignment** tab.
5. Select the **Wrap text** option.
6. Select **OK**.
7. Repeat steps 2 through 6, but use cell A1.



8. You can now adjust the column width by moving the border of the columns between A and B.

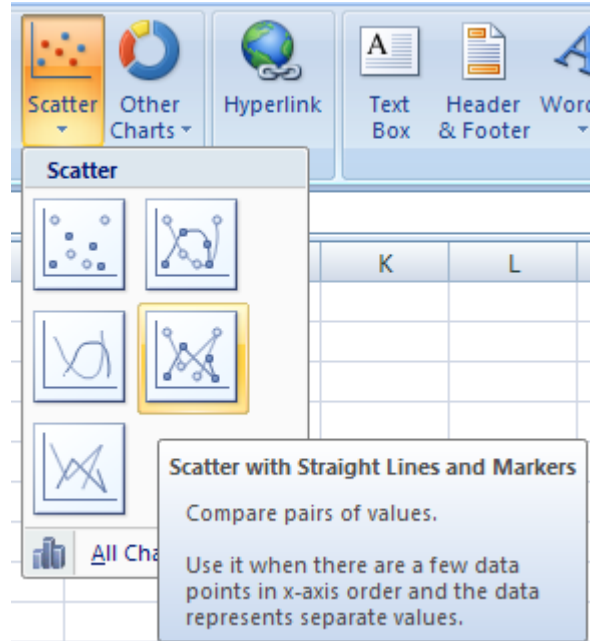
	A	B
1	Average Annual Earnings for Males	Average Annual Earnings for Females
2		

9. In cells A2 through A10, place the average annual earnings for males in thousands.
10. In cells B2 through B10, place the corresponding average annual earnings for females in thousands.

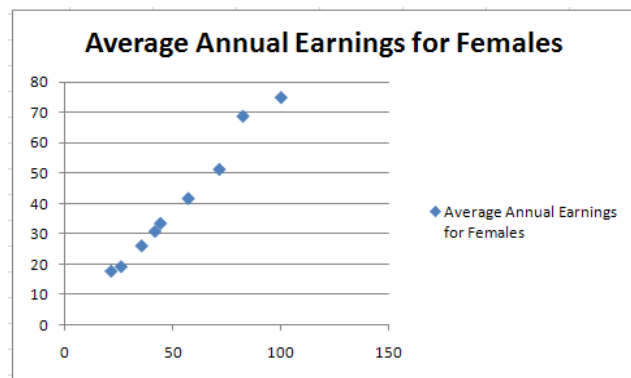
	A	B
1	Average Annual Earnings for Males	Average Annual Earnings for Females
2	21.659	17.659
3	26.277	19.162
4	35.725	26.029
5	41.875	30.816
6	44.404	33.481
7	57.22	41.681
8	71.53	51.316
9	82.401	68.875
10	100	75.036
11		

### Create the scatter plot

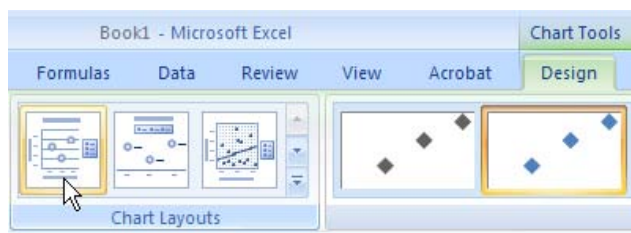
11. Left click and hold on cell A1. Drag the mouse to select all of the data.
12. Click on the **Insert** tab. From the Charts panel select **Scatter**.
13. Choose **Scatter with only Markers**.



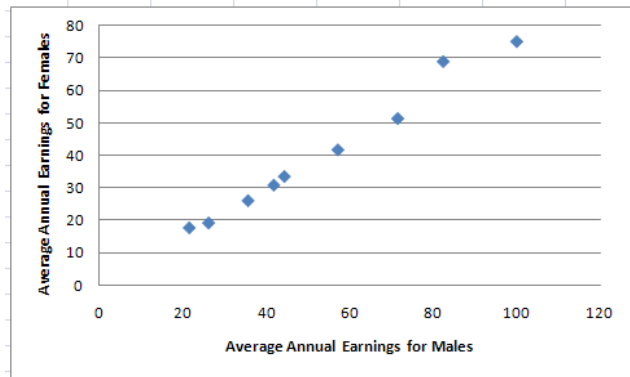
14. A scatter plot will appear in your worksheet. This is a standard scatter plot that can be changed as needed.



15. Click on the graph. Notice that the tabs along the top of Excel change. Under **Chart Tools**, select the **Design** tab.
16. Choose the first option from the **Chart Layouts** panel.

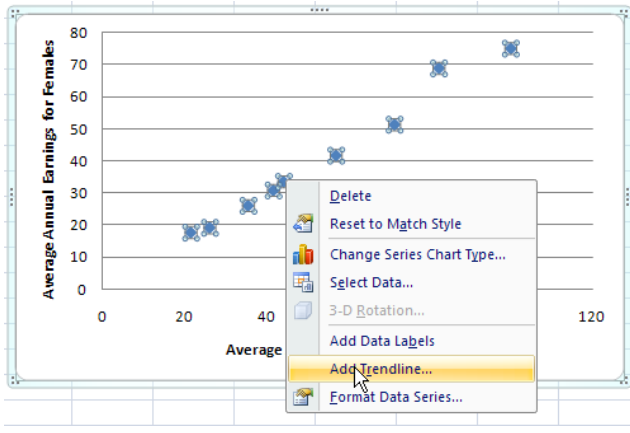


17. Axis titles will be added to your graph along with several other options. Click on the chart title above the graph and press the **Delete** key to remove it.
18. Click on the legend to the right of the graph and press the **Delete** key to remove it.
19. Click on the axes titles and edit them to reflect appropriate names like those to the right.



### Add the regression line to the scatter plot

20. Right mouse click one of the data points.
21. Select **Add Trendline...** to perform linear regression.



22. Select a **Linear** regression type.
23. At the bottom of the dialog box, check **Display Equation on chart** and **Display R-squared value on chart**.
24. Select **Close** at the bottom of the dialog box.

### Trendline Options

Trend/Regression Type

Exponential  
 **Linear**  
 Logarithmic  
 Polynomial Order:   
 Power  
 Moving Average Period:

Trendline Name

Automatic : Linear (Average Annual Earnings for Females)  
 Custom:

Forecast

Forward:  periods  
 Backward:  periods

Set Intercept =   
 Display Equation on chart  
 Display R-squared value on chart

25. The graph now includes the regression line as shown below. You can extend beyond the data points by increasing the values under **Forecast** in **Forward** or **Backward** in **Trendline Options** in step 23.

