Analyzing Weather Data with Excel

Directions:

1. Open up the excel spreadsheet on your computer
2. On the first spreadsheet (which should be the first thing you see), type in all your data
3. MAKING THE TEMPERATURE & RELATIVE HUMIDITY GRAPH
   1. Copy the data table from cells B3-B13 and
      1. To copy, Click and drag the cells you want, right click, and select copy
   2. Paste that data into the A column on the spreadsheet entitled temp& relative humidity (click the A so the whole column is highlighted, right click, select paste
   3. Copy and paste the data from cells C3-C13, E3-E13, and F3-F13 the same way
   4. Now you should be working in the spreadsheet you just copied the data into (you should have 4 columns of information)
   5. On the menu bar, click insert, then click scatter, and select the first graph on the first row on the left. This should bring up a blank box.
   6. Right click inside the box and click select data
   7. Click Add.
   8. In the edit series box that popped up:
      1. type My Data into the series name
      2. On the Series X Values: Hit the button with an arrow in it. After a new small box pops up, take your cursor and select the first column of data (click and drag your numbers). Then click the arrow button again.
      3. For the Series Y Values. Hit the button with an arrow in it. After a new small box pops up, take your cursor and select the second column of data (click and drag your numbers). Then click the arrow button again.
      4. Select Ok
   9. You should be back in your Select Data Source Box.
   10. Click Add again.
   11. In the edit series boxes, you will repeat the same steps for the data in weather.com
       1. Type Weather.com in the series name
       2. Select the 3rd column of data for the x series
       3. Select the 4th column of data for the y Series
       4. Select OK
   12. Hit Ok in the select data source box
   13. Your graph probably looks really funny
   14. Click the x axis on the bottom so that a box goes around your numbers
   15. Right click in the box and select format axis
       1. Select Fixed on the minimum and pick a number about 5 degrees less than your smallest temperature number (if the coldest it got was 63, use 60 as your minimum)
       2. Select fixed on the maximum and pick a number about 5 degrees more than your biggest temperature number (if the warmest it got was 74, choose 80 as your maximum)
       3. Hit Close, your graph should look less weird now
   16. Look at your graph, does it look like temperature and humidity values are related? Or as one goes up does the other go up? Or are they unrelated and your data points are all over the place?
   17. Now you are going to do some statistics so that the computer will tell you if they are related.
   18. Click on one of the “My Data” so they are all highlighted. Right Click.
   19. Select add trendline
       1. Linear should already by picked
       2. At the bottom of the box select Display R2 value on chart.
       3. If it above 0.7 then the two variables are correlated.

MY DATA R2 VALUE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

CORRELATED? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. Add a trendline for the weather.com points

WEATHER.COM R2 VALUE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

CORRELATED? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. Call me over to see the completed graph \_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. MAKING TEMPERATURE & WIND SPEED GRAPH
   1. You will need to copy and highlight the data from the data table spreadsheet in this order: Recorded Temperature, Recorded Wind Speed, Weather.com Temperature, Weather.com Wind Speed.
   2. Make a scatter plot the same way you did for Temperature & Humidity
   3. Change the axis scale so the graph looks less weird
   4. Add trendlines to the graph.

MY DATA R2 VALUE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

CORRELATED? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

WEATHER.COM R2 VALUE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

CORRELATED? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. Call me over to see the completed graph \_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. MAKING HUMIDITY & WIND SPEED GRAPH
   1. You will need to copy and highlight the data from the data table spreadsheet in this order: Recorded Relative Humidity, Recorded Wind Speed, Weather.com Relative humidity, weather.com wind speed
   2. Make a scatter plot the same way you did for Temperature & Humidity
   3. Change the axis scale so the graph looks less weird
   4. Add trendlines to the graph.

MY DATA R2 VALUE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

CORRELATED? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

WEATHER.COM R2 VALUE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

CORRELATED? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. Call me over to see the completed graph \_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. HUMIDITY & CLOUDS
   1. Rank the humidity values from lowest to highest in the chart (your recorded values not weather.com)
   2. Type in whether there were clouds or not (YES or NO)
   3. Call me over to see your chart \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. WIND & CLOUDS
   1. Rank the wind speed values from lowest to highest in the chart (your recorded values not weather.com)
   2. Type in whether there were clouds or not (YES OR NO)
   3. Call me over to see your chart \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_