Quiz 5 solutions and explanations

Quiz 5 Solutions & Explanations

Everyday Excel, Part 1

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Hello there! This document is meant to provide clear explanations for the Quiz 5 questions (not the in-video quizzes since they have explanations already). I do NOT provide feedback during the quiz (like I do for the screencasts) because a learner could just guess, obtain the correct answers, then put them back into the quiz and get 100%!

This document is purely for you to learn more and to correct your misconceptions about the material. If you view this document soon after you take the quiz to see why you missed a certain question, it will serve as a great learning tool!

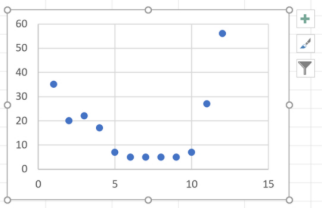
PLEASE DO NOT SHARE THIS DOCUMENT WITH ANYONE! Using this document to complete Quiz 5 is a violation of Coursera's Honor Code (a.k.a. cheating).

NOTE that the order of the answers on Coursera are random and likely different from the order shown here (in general but not always, I like to start with the correct answers followed by the incorrect ones).

Question 1:

The plot shown below depicts natural gas consumption (in therms) as a function of time for a particular home.

	A	B
1	Month	Therms
2	1	35
3	2	20
4	3	22
5	4	17
6	5	7
7	6	5
8	7	5
9	8	5
10	9	5
11	10	7
12	11	27
13	12	56
14		



If we had a second set of data (e.g., data for the year 2017), how would we go about adding that second series to the plot? Select all that apply.

A. We could right click in the plot area and go to **Select Data** then add a new series.

Correct! This is one way that we can add a new data series to the plot

B. We could select the therms data for 2017, copy that data, then left click in the center of the plot and then paste the data.

Correct! This is one way that we can add a new data series to the plot.

C. We would go to the green **+** sign to add a new data series.

Incorrect. This is not a way that we can add a new series to the plot

D. Any column of data input adjacent to previous data in Excel is automatically added to any preexisting plot.

Incorrect. This is not a way that we can add a new series to the plot.

E. We could select the chart then choose the **Chart Design** tab, then choose **Select Data** and add a new series.

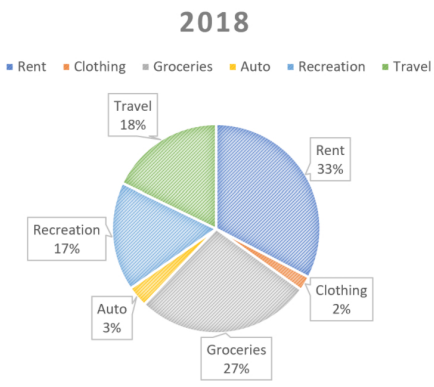
Correct! This is one way that we can add a new data series to the plot.

Question 2:

This is a cumulative question that uses some things that you have learned not just in Week 5 but throughout the entire course! We have annual expense data as a function of year for several different categories:

	A	B	C	D	E	F	G
1	**Annual expenses**						
2							
3	Year	Rent	Clothing	Groceries	Auto	Recreation	Travel
4	2016	$ 6,200	$ 340	$ 5,400	$ 1,300	$ 2,700	$ 4,300
5	2017	$ 6,600	$ 450	$ 5,500	$ 650	$ 3,400	$ 3,600
6	2018	$ 6,600	$ 380	$ 4,900	$ 2,150	$ 1,900	$ 1,200
7	2019	$ 7,200	$ 290	$ 5,300	$ 975	$ 2,450	$ 2,970
8							
9	2018	$ 6,600	$ 450	$ 5,500	$ 650	$ 3,400	$ 3,600

We wish to be able to change the year in cell **A9** and the data in cells **B9:G9** will automatically update - they will be obtained from the data above based on the year in cell **A9**. Then, a pie chart of expense categories will be displayed (the chart uses the categories in cells **B3:G3** and values in cells **B9:G9**):



Which of the following formulas could we place in cell **B9** that we could copy/paste over into the entire range **B9:G9** to make the chart dynamically update when we change the year in cell **A9**? Select all that apply.

A. =INDEX(B4:B7,MATCH($A$9,$A$4:$A$7,0))

Correct! Yes, we can use **MATCH($A$9,$A$4:$A$7,0)** to determine the index number of where the year in cell **A9** is found in the range **$A$4:$A$7**. Once we have that index number, we can use it in the **INDEX** function to output the corresponding category (Rent, Clothing, Groceries, etc.).

B. =SUMIF($A$4:$A$7,$A$9,B4:B7)

Correct! We can use the **SUMIF** formula in this manner since we will only be summing a single value (i.e., there's only a single match with the year in cell **$A$9** for the range **$A$4:$A$7**).

C. =VLOOKUP($A$9,$A$4:$G$7,COLUMN(),FALSE)

Correct! We can use the **COLUMN()** function to determine the column number of the cell that will be copied over in the range **B9:G9**. We can use the **VLOOKUP** function to find the year in cell **$A$9** by searching through the left-most column of range **$A$4:$G$7**. The column number obtained from **COLUMN()** will output the corresponding category value (Rent, Clothing, Groceries, etc.).

D. **=INDEX(B4:G7,MATCH($A$9,$A$4:$A$7))**

Incorrect. This will NOT find the category values based on the year in cell **$A$9**.

E. **=VLOOKUP(A9,A4:A7,MATCH($A$9,$A$4:$A$7),FALSE)**

Incorrect. This will NOT find the category values based on the year in cell **$A$9**.

Question 3:

Which of the following statements are **TRUE**?

A. You are preparing a PowerPoint presentation for someone else across the world and you will email them the file when you are finished. You decide to embed an Excel chart into the PowerPoint presentation and then you email them the file. However, you forget to email them the embedded .xlsx file. When they open up the PowerPoint file they will NOT be able to see the embedded chart.

Incorrect, this is not true. When you embed a file, you are permanently making that embedded file part of the PowerPoint file, separate from the originally embedded file. So, in this case the user WILL be able to see the embedded chart.

B. When printing off Excel worksheets, there is no way to display column and row headings, unfortunately.

Incorrect, this is not true. In Page Setup (Print menu) you can opt to show column and row headings.

C. If we wished to plot the average fuel economy of cars in the United States as a function of year and we also wanted to plot the average fuel economy of cars in Norway as a function of year, we would need to add a secondary axis.

Incorrect, this is not true. No, these two series both represent the same measured quantity (average fuel economy of cars), so they would be presented on a single, primary axis.

D. You cannot add multiple series to a traditional pie chart.

Correct, this is true! You cannot add multiple series to a pie chart. There are, however, doughnut plots and sunburst plots that do this (to some extent).

E. Excel objects can be linked to both Word documents and PowerPoint presentations, but in either case the linked .xlsx file must always be available (i.e., on the same computer) in order for the linked object to show up.

Correct, this is true! When you link a file into Word or PowerPoint, you must provide the linked file; otherwise, the linked objects will not show up.

Question 4:

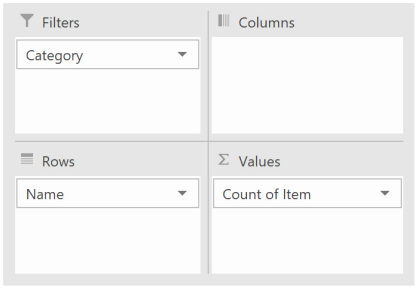
The following **Pivot Table** has been created from the data that follows.

Category	Beverages
Row Labels	**Count of Item**
Donald Duck	1
Gabby Goat	1
Minnie Mouse	1
Yosemite Sam	1
Grand Total	**4**

Which of the following correctly shows how we dragged and dropped the various fields into the **Pivot Table** tool?

Solution: Name is in the Rows field. We are summing the number of items that each guest will bring, so we need to count the total number of Items (assuming that a single guest doesn't bring duplicate items). A filter for Beverages is shown, so a Category filter must have been applied.

So, the solution is:



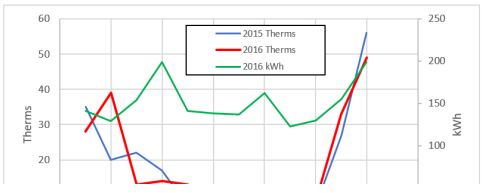
Question 5:

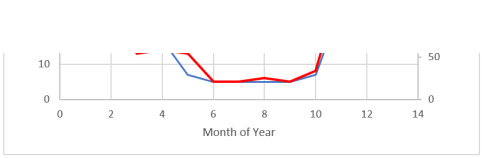
We wish to plot the following energy usage as a function of time on a scatterplot. Columns **B** and **C** represent the natural gas usage (in therms) for 2015 and 2016, respectively. Column **D** represents electricity consumption (in kWh) for 2016. Which of the following plots properly shows how we can visualize this information?

	A	B	C	D
1	Month	Therms		kWh
2		2015	2016	2016
3	1	35	28	141
4	2	20	39	129
5	3	22	13	154
6	4	17	14	199
7	5	7	13	141
8	6	5	5	138
9	7	5	5	137
10	8	5	6	162
11	9	5	5	123
12	10	7	8	130
13	11	27	33	155
14	12	56	49	199

Solution: We want columns B and C as separate series but on a primary axis. Then, we want column D (since kWh is different from Therms) on a secondary axis, added as a third series.

Thus, the solution is:





Mark as completed