

Excellence with Excel

– Certification Quiz Questions

Module 4 – Data Analysis

1. An example of a “Data Table” in Excel is shown in the screenshot below. Which of the following is NOT an advantage of using these Data Tables?

Customer Name	Company Name	U.S. Telephone	Street Address	City	State	ZIP	Amount	Order Date	Sales Rep ID	Commission
Jim van der Mheen	Stokes, Rutherford and Bauch	+1 (728) 272-7491	939 Clear Edge	Mesita	WV	14424	\$ 100,003	2016-04-19	1	\$ 15,000
Shenita Davenport	Waelchi Inc	+1 (267) 625-9210	873 Iron Third Harbor	Whelen Springs	NM	37783	183,593	2016-07-03	1	27,539
Jimmie McClure	Braun, Crooks and Ortiz	+1 (837) 318-3929	856 Forge Overpass	Annandale	NM	08463	159,194	2016-10-21	1	23,879
Marybelle Serrano	Schamberger, Yost and Dach	+1 (885) 388-7212	515 Silver Highlands	Natalbany	WY	00462	180,394	2016-04-01	1	27,059
Vito van Helpen	Mann, Sauer and Sauer	+1 (350) 730-6802	221 Jagged Harbor	Franklin Borough	NY	80069	125,979	2016-07-18	1	18,897
Salvatore van Egmond	Schmidt-Marks	+1 (530) 818-9072	P.O. Box 51573	Berthold	SD	16229	111,804	2016-07-29	1	16,771
Haywood Meza	Huels, Schuster and Daugherty	+1 (810) 230-6924	P.O. Box 42524	Matteson Village	MN	55503	108,063	2016-01-15	1	16,209
Margrett Cowan	Armstrong Group	+1 (866) 169-7776	249 Old Passage	James Village	ID	64602	174,882	2017-07-15	1	26,232
Jerold Hooper	Muller, Lakin and Bogan	+1 (929) 151-1240	843 Old Camp	New Holland Village	WY	32125	130,140	2017-03-26	1	19,521
Leandro van der Woerd	Mueller and Sons	+1 (770) 152-0879	956 Lazy Grove	Ouray	MI	38713	212,181	2017-01-18	1	31,827
Haywood Huber	Braun, Crooks and Ortiz	+1 (671) 452-9873	P.O. Box 30184	Wolfe	OK	08774	152,568	2017-05-31	1	22,885
Particia Veenhof	Schmidt-Marks	+1 (804) 107-4292	897 Amber Bluff	Huntley	IN	29911	152,088	2017-08-02	1	22,813
Yvone Esparza	Weber, Kuhlman and Hirthe	+1 (209) 935-0674	937 Indian Kennedy Lawn	South Milwaukee	ME	85635	185,383	2017-12-05	1	27,807
Jame Oosthuizen	Graham, Towne and Monahan	+1 (616) 169-8512	670 Lazy Cider	Glen Raven	NC	19967	139,493	2017-04-30	1	20,924

- a. They automatically format everything and make it easier to sort and filter data.
- b. They let you create “structured references” with easy-to-read names (e.g., Sales_Rep_Table[Sales Rep ID]).
- c. Formulas in the cells of data tables update automatically based on additions, deletions, and change to other data tables.
- d. Excel will insert formulas automatically based on the titles of columns in the data tables.
- e. When used with Power Pivot, data tables allow you to “join” data and create pivot tables based on the contents of multiple tables.

2. Suppose that you want to filter the data table in the previous question so that only orders associated with one specific city or one specific state show up. What is the most efficient way to do this?

- a. Go to the filters at the top, click them, deselect all the choices, and then select the single city or state you want to appear.
- b. Find the first instance of this city or state in the table with the Find command in Excel, right-click it, and then go to “Filter” and “Filter by Selected Cell’s Value.”
- c. It depends on whether you want to filter the data by BOTH the city and the state, or just ONE of those – the second answer is better for the first, and the first answer is better for the second.
- d. Sort the data in alphabetical order and then hide the rows above and below this specific city or state name.

3. You have set up a data table called “Order_Table” in an Excel file, and you’ve written a SUMPRODUCT formula to query the data and return the total dollar amount of sales that match a specific region, industry, year, and month. This SUMPRODUCT formula is shown below:

	N	O	P	Q	R	S	T	U	V
1									
2									
3									
4									
5				Sales by Region, Industry, Month, and Year:					
6				Region:	Midwest				
7				Industry:	Industrials				
8				Year:	2025-01-01				
9				Month:	1				
10									
11				Total Sales:	<code>=SUMPRODUCT((Order_Table[Industry]=Summary!Q7)*</code> <code>(Order_Table[Region]=Summary!Q6)*(YEAR(Order_Table[Order Date])=YEAR(Summary!Q8))*</code> <code>(MONTH(Order_Table[Order Date])=Summary!Q9),Order_Table[Amount])</code>				
12									
13									
14									

You decide to rewrite this formula using SUMIFS to make it easier to understand, and you enter the following to do it:

=SUMIFS(Order_Table[Amount], Order_Table[Industry], Summary!Q7, Order_Table[Region], Summary!Q6, YEAR(Order_Table[Order Date]), YEAR(Summary!Q8), MONTH(Order_Table[Order Date]), Summary!Q9)

However, Excel does not even let you enter this formula. How can you fix this so that it works properly?

- a. YEAR and MONTH don't work over entire ranges, so you must enter this formula as an array function with Ctrl + Shift + Enter instead.
- b. The problem is with the underlying data – YEAR won't work in a direct comparison if you've entered the entire date in a cell rather than just the year number.
- c. YEAR and MONTH don't work over entire ranges, so you should change the criteria to compare Order_Table[Order Date] to the date formed by cells Q8 and Q9 and make sure it's within that month using EOMONTH.
- d. None of the above – it's not possible to replace SUMPRODUCT with SUMIFS for a formula like this because of the need to evaluate criteria over a range of cells.

4. You have written DSUM and DCOUNT functions to retrieve the total dollar amount and order count of all orders that meet specific criteria, as shown in the screenshot below:

	I	J	K	L	M	N	O	P
1								
2								
3								
4		Database Functions to Summarize Sales and Orders:						
5								
6		Industry	State	Region	Amount	Order Date	Order Date	Sales Rep ID
7		Industrials		Midwest		>=1/1/2021	<=12/31/2024	
8								
9								
10								
11								
12		Order Total:						\$ 408,314,982
13		Order Count:						999
14		Commission Total:						46,592,678
15								

However, Excel shows the Order Total as \$408 million and the Order Count as 999 because it incorrectly counts ALL the orders, not just the ones that meet the criteria above. What is the MOST LIKELY reason why these database functions are not working correctly?

- a. You have extra spaces in one of the headers, such as the “Region” or “Order Date” title, so Excel cannot match them to the field titles in the data source.
- b. You have not entered criteria in the State, Amount, and Sales Rep ID fields, so the database functions return the sum and count for all the data by default.
- c. You cannot use a criterion such as the Order Date twice in the same DSUM and DCOUNT functions.
- d. The DSUM and DCOUNT functions are incorrectly referencing both row 7 and also the several blank rows below it.

5. You are using the database functions DSUM and DCOUNT to summarize a table of customer orders. For which of the following criteria sets would these database functions be MOST useful?

Database Functions to Summarize Sales and Orders:

Industry	State	Region	Amount	Order Date	Order Date	Sales Rep ID
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- a.

Industrials		Midwest		>=1/1/2021	<=12/31/2024	
Energy		Northeast		>=1/1/2022	<=12/31/2025	
Consumer Staples		Southeast		>=1/1/2020	<=12/31/2023	

Database Functions to Summarize Sales and Orders:

Industry	State	Region	Amount	Order Date	Order Date	Sales Rep ID
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- b.

Industrials		Midwest		>=1/1/2021	<=12/31/2024	
Energy		Midwest		>=1/1/2021	<=12/31/2024	
Consumer Staples		Midwest		>=1/1/2021	<=12/31/2024	

Database Functions to Summarize Sales and Orders:

Industry	State	Region	Amount	Order Date	Order Date	Sales Rep ID
Industrials	IL		>=100000	>=1/1/2021	<=12/31/2025	1

c.

Database Functions to Summarize Sales and Orders:

Industry	State	Region	Amount	Order Date	Order Date	Sales Rep ID
Industrials		Northeast	>=100000	>=1/1/2021	<=12/31/2025	1
Energy		Northeast	>=100000	>=1/1/2021	<=12/31/2025	1
Financials		Northeast	>=100000	>=1/1/2021	<=12/31/2025	1

d.

6. You have created a blank pivot table, shown in the screenshot below, based on source data from another worksheet:

The screenshot shows an Excel worksheet with a blank PivotTable named 'PivotTable2' in cell B33. The PivotTable Fields task pane is open on the right, showing a list of fields to be added to the report. The fields are:

- Customer Name
- Company Name
- Industry
- U.S. Telephone
- Street Address
- City
- State
- Region
- ZIP
- Amount
- Order Date
- Sales Rep ID
- Commissions
- Years

The task pane also shows four areas for dragging fields: Filters, Columns, Rows, and Values. The 'Region' field is currently selected in the field list.

You want to display the total order dollar amount by year and month, and then by region.

The month and year groupings should be in the leftmost column, and the regions should be in the topmost row.

Which of the following screenshots shows the CORRECT positioning required to accomplish this, assuming that you ONLY drag in the fields shown above and do NOT modify the pivot table in any other way?

Drag fields between areas below:

Filters	Columns
	Years Order Date
Rows	Values
Region	Sum of Amount

a.

Drag fields between areas below:

Filters	Columns
	Region
Rows	Values
Order Date	Sum of Amount

Defer Layout Update Update

b.

Drag fields between areas below:

Filters	Columns
	Region
Rows	Values
Order Date	Sum of Amount
Years	
<input type="checkbox"/> Defer Layout Update Update	

c.

Drag fields between areas below:

Filters	Columns
	Region
Rows	Values
Years	Sum of Amount
Order Date	
<input type="checkbox"/> Defer Layout Update Update	

d.

7. You have created the following pivot table, which shows the percentage of sales from each company sales rep in each year:

Sum of Amount	Sales Rep ID										
Years	Order Date	1	2	3	4	5	6	7	8	9 Grand Total	
2016		100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
2017		100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
2018		50.34%	49.66%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
2019		44.64%	26.03%	29.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
2020		29.34%	41.05%	29.62%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
2021		28.75%	20.36%	35.46%	15.43%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
2022		16.31%	17.76%	15.09%	21.68%	9.68%	19.48%	0.00%	0.00%	0.00%	100.00%
2023		18.14%	12.01%	9.19%	12.83%	12.98%	14.27%	11.99%	8.58%	0.00%	100.00%
2024		10.99%	15.03%	9.21%	11.97%	9.79%	12.14%	9.25%	12.60%	9.03%	100.00%
2025		13.12%	6.92%	12.25%	11.22%	9.30%	12.59%	11.14%	10.26%	13.18%	100.00%
Grand Total		18.24%	14.74%	14.48%	11.86%	8.22%	11.05%	7.54%	7.49%	6.38%	100.00%

The source data includes only the Sales Rep ID – not the Sales Rep Names, which are in a separate data table.

If you want to make this pivot table display each Sales Rep’s Name rather than their ID, how could you do it?

- a. Add the Sales Rep Name as a separate field in the source data, and do a simple lookup in the separate data table to retrieve it based on the Sales Rep ID; then, re-create the pivot table and include this field.
 - b. Use Excel’s Internal Data Model, create a “relationship” between these tables based on the Sales Rep ID as the common field, and then drag fields from both data sources into a single pivot table – but this won’t work in all versions of Excel.
 - c. When you create the pivot table, select “Use external source,” link to the separate Sales Rep table, and then drag in the fields from that one and the Order table.
 - d. Answer choices 1, 2, and 3.
 - e. Answer choices 1 and 2.
 - f. Answer choices 1 and 3.
 - g. Answer choices 2 and 3.
- 8. You’ve created a pivot table based on the customer order data, and now you want to add a Calculated Field to the table to enhance it without changing the underlying data. Which of the following represent(s) an APPROPRIATE example of a Calculated Field in this context?**
- a. “Net Sales,” defined as the Order Dollar Amount minus Commissions paid to the sales rep.
 - b. “Average Sales by Region,” based on a custom grouping you set up for the 5 main regions of the company’s operations (based on state and city data).

- c. "Sales Rep Name," where you do a lookup or use INDEX/MATCH to retrieve the Sales Rep's name from the Sales Rep table without adding a redundant column in the Order table.
- d. "Percentage of Subtotal," which calculates each order's contribution percentage to the total sales per sales rep per year.
- e. Answer choices 1, 2, 3, and 4.
- f. Answer choices 1 and 3.
- g. Answer choices 2 and 3.
- h. Answer choices 1 and 4.