

Excellence with Excel - Quiz Questions

Module 5 – Functions and Formulas

1. Below is a table of cash inflows and outflows. Positive numbers represent distributions (outflows), while negative numbers represent investments (inflows). Which formula represents the best way to calculate the total *DISTRIBUTIONS*?

	A	B
1	Date	Amount
2	06/12/92	(100)
3	11/18/93	5
4	01/17/95	25
5	04/10/95	(25)
6	03/14/96	15
7	05/01/98	(15)
8	01/22/99	125
9	11/06/00	205

- a. =SUM(B2:B9)
- b. =B3+B4+B6+B8+B9
- c. =SUM(B3:B4,B6,B8:B9)
- d. =SUMIF(B2:B9,"<0")
- e. =SUMIF(B2:B9,">0")

2. What happens in the screenshot shown below after you press Alt + = (or CMD + Shift + T on the Mac)?

The screenshot shows a column of numbers: 5, 8, 4, 3, 2. Below it are four options for the result of the Alt+= shortcut:

- a. 22
- b. 4.4
- c. 5
- d. 8

3. First, review the screenshot below:

	H	I	J	K	L	M	N
1							
2							
3							
4	Sales by Sales Rep, Month, and Year:						
5							
6	Sales Rep Name:		Quinton Goulet				
7	Sales Rep ID:			5			
8	Select Year:		N/A	<-- Assuming 2020 for now.			
9	Select Month:		Jun				
10							
11	Monthly Sales:		\$	923,381			
12							
13	Sales by Region, Month, and Year:						
14							
15	Region:		West				
16	Select Year:		N/A	<-- Assuming 2020 for now.			
17	Select Month:		Jan	1/1/2020			
18							
19	Monthly Sales:		\$	1,583,204			

You are attempting to replicate the functionality in cell K19, which lists the monthly sales by region and month, and you want to use the SUMIFS function to calculate it. Within the "Orders" worksheet, column J is for the dollar amount, I is for the region, and K is for the date.

You write the following formula:

```
"=SUMIFS(Orders!$J$3:$J$1001,Orders!$I$3:$I$1001,"="&K15,Orders!$K$3:$K$1001,">="&L17,Orders!$K$3:$K$1001,<&DATE(YEAR(L17),MONTH(L17)+1,DAY(L17)))"
```

When you write this, Excel repeatedly gives you an error message. What's the problem?

- The order of inputs into the DATE function is incorrect – it should be day, month, and then year at the end instead.
- You're using the incorrect ranges as input into the SUMIFS function – you should always list the criteria ranges first and THEN the sum range at the end.
- You have forgotten to enter double quotes (" ") around the < just before the date at the end, so Excel won't interpret it correctly.
- An exact match like this won't work with SUMIFS – you should use VLOOKUP or HLOOKUP instead.

4. **Suppose that you have a long list of phone numbers, with some entered as actual numbers in Excel and others entered as text. In addition, there are also some blank cells in between the numbers in random locations. Which function should you use to count the total number of phone numbers, in BOTH text and number format, but to IGNORE all the blank cells?**
- COUNT
 - COUNTA
 - Neither one will do this.
 - You should use COUNTIF instead, because that's the only way to check for blank cells here.
5. **Suppose that someone tells you he invested \$1,000 five years ago, spent nothing additional and earned nothing additional on it since then, sold his investment today, and earned a 20% "IRR" (Internal Rate of Return) on it. What conclusions could you draw from this statement?**
- 20% is the "effective compounded interest rate" on his investment, i.e. he sold it for an amount such that it was equal to earning 20% on the \$1,000 in year 1, then 20% on that new total amount, and so on up through Year 5.
 - You can't say anything without know what he sold the investment for in Year 5.
 - He sold the investment for approximately \$2500 in Year 5.
 - You can't draw a conclusion without knowing the discount rate on this investment.
6. **Suppose that you have a cash OUTFLOW (i.e. you invest money) in Month 1 of Year 1, followed by cash INFLOWS (you earn money on the investment) in Month 5 of Year 1, Month 9 of Year 1, Month 5 of Year 2, Month 11 of Year 2, and Month 6 of Year 3. Would the XIRR or IRR function return a higher value in this case?**
- XIRR would return a higher value since the cash flows arrive in less than 3 years; IRR would interpret each cash outflow or inflow as being 1 year apart.
 - IRR would produce a higher value since the time-value of money is not being factored in – as a result, it interprets each cash outflow or inflow as being very close together.
 - It depends on the specific values for the cash outflow and inflows – for very negative IRRs, XIRR would be higher, but otherwise IRR would be higher.
 - It depends on the specific values for the cash outflow and inflows – for very negative IRRs, IRR would be higher, but otherwise XIRR would be higher.

7. You are reviewing the following analysis in Excel, which shows the IRR of an investment where you invested \$1,000 upfront, earned \$100 in cash flows each year, and exited for \$2,500:

	A	B	C	D	E	F	G
1							
2		Demonstration of IRR Function:					
3							
4		Initial Investment:					\$ 1,000
5		Annual Cash Flow:					100
6		Investment Selling Value:					2,500
7							
8		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
9		\$ (1,000)	\$ 100	\$ 100	\$ 100	\$ 100	\$ 2,500
10							
11		Invested Amount:					1,000
12		What We Get Back (Proceeds):					2,900
13							
14		IRR:					26.6%

Suppose that you want to determine, based on this cash flow profile and the investment selling value of \$2,500, how much you could afford to pay in YEAR 0 for this investment if you were targeting a 20% IRR. Which of the following functions would tell you that?

- =GOALSEEK(20%, 100, 100, 100, 100, 2500)
 - =XNPV(20%, C9:G9)
 - =NPV(20%,C9:G9)
 - =XIRR(B9:G9, B8:G8, 20%)
8. Using your knowledge of IRR, you want to see if the function really works – so you attempt to apply the IRR output above, 26.6%, and see if it produces the \$2,500 in Year 5 when you enter multiply the \$1,000 by $(1 + .266)$, and then compound that all the way through Year 5. You end up with \$3,245 at the end instead of \$2,500. What does this tell you about the IRR function?
- Since IRR is a complex polynomial function, you can't actually replicate it by yourself like this in Excel.
 - You might have made a mistake entering your formula if this doesn't work.
 - You should be trying to match \$2,900 at the end rather than \$2,500 – so it's still roughly accurate.
 - It doesn't work because of the cash flows received in between Year 0 and Year 5 – you'd need to factor those in as well to replicate the IRR function yourself.

9. You're analyzing a company where sales representatives receive a 20% commission on the sales they generate, but only if they exceed a quota of \$50,000. Which formula that can be written in cell C2 and copied into cells C3:C5 will correctly calculate commissions?

	A	B	C
1	Representative	Sales	Commission
2	Rep 1	50,000	
3	Rep 2	60,000	
4	Rep 3	70,000	
5	Rep 4	40,000	
6			
7	Quota	50,000	
8	Commission	20%	

- =B2*B8
 - =B2*\$B\$8
 - =IF(B2>B7,B2*B8,0)
 - =IF(B2<B7,B2*B8,0)
 - =IF(B2>\$B\$7,B2*\$B\$8,0)
 - =IF(B2<\$B\$7,B2*\$B\$8,0)
10. The formula in cell C4 was copied into cell C5, as shown below in the "Before" and "After" screenshots. What is the *MOST* likely way that this was done?

BEFORE:

	A	B	C
1		Revenue	% of Total
2	Product 1	1,150	24.3%
3	Product 2	2,345	49.6%
4	Product 3	780	16.5%
5	Product 4	450	
6	Total	4,725	100.0%

AFTER:

	A	B	C
1		Revenue	% of Total
2	Product 1	1,150	24.3%
3	Product 2	2,345	49.6%
4	Product 3	780	16.5%
5	Product 4	450	9.5%
6	Total	4,725	100.0%

- Ctrl + D.
- Ctrl + C, then Alt + E + S + F (or CMD + Ctrl + V, CMD + F on the Mac).
- Ctrl + C, then Alt + E + S + T (or CMD + Ctrl + V, CMD + T on the Mac).
- It was entered directly.

11. In which of the following cases might it be *BETTER* to use Ctrl + R to copy formulas across a row rather than Alt + E + S + F (or Ctrl + Alt + V + F, or CMD + Ctrl +V, CMD + F on the Mac)?

- If you want to copy the formulas, but preserve the formatting of all the cells that you're copying over.
- If you have a border midway through the area that you're copying over, and you do NOT want to preserve it.
- If you have a border midway through the area that you're copying over, and you DO want to preserve it.
- If you are working in a mostly unformatted, "raw data" worksheet and need to finish copying the formulas quickly.
- If you're copying the formulas down a column rather than across a row.

12. Which of the following formulas will return Camila Krause's age in the data set below?

	A	B	C	D	E	F
1	Last Name	First Name	Gender	Age	Blood Type	SSN
2	Butts	Trace	Female	54	AB-	300235274
3	Cabrera	Keitha	Male	47	AB-	369223352
4	Carnes	Ksena	Female	66	B+	195701550
5	Cooksey	Ty	Female	65	A-	479356369
6	Drew	Gella	Male	49	AB-	278615964
7	Goff	Jordan	Male	19	B-	509502709
8	Krause	Camila	Female	45	B+	483684004
9	Lemay	Ananda	Male	73	B-	622464418
10	Monahan	Jalisa	Male	47	B+	632565487
11	Outlaw	Deva	Male	78	A-	347301809
12	Pope	Rosalind	Female	51	O-	365481796
13	Salisbury	Mliss	Female	41	B-	340123388
14	Shin	Jazmyn	Male	45	B-	534645568
15	Webb	Jagger	Female	32	O-	318115890
16	Wharton	Whitney	Male	69	B-	221115531

- =VLOOKUP("Krause", A1:F16, 3)
- =VLOOKUP("Krause, Camila", A1:F16, 3)
- =VLOOKUP("Krause", A1:F16, 4)
- =VLOOKUP("Krause, Camila", A1:F16, 4)
- =VLOOKUP("Krause", D1:D16, 3)
- =VLOOKUP("Krause", D1:D16, 4)

13. Which of the following answer choices represent(s) LIMITATIONS of the VLOOKUP and HLOOKUP functions?

- a. You need to move through data from left to right, or from top to bottom, but you can't go in the "reverse" directions.
- b. You need to know in advance the row or column position of the item you're looking for.
- c. You can do an exact match, but not an approximate match.
- d. You can only retrieve the value in a single cell, unless you use an array function.
- e. You need to specify the exact criteria needed to find the data. For example, you can't just find any text that starts with the letter "B" – you have to search for the exact text you need.
- f. You can only look up values based on a single criterion, unless you combine the lookup functions with more complex conditionals.

14. Suppose that you have the following data table, and you want to write a VLOOKUP function that finds the monthly sales based on the month and sales rep ID you have entered:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
1															
2			1/1/2020	2/1/2020	3/1/2020	4/1/2020	5/1/2020	6/1/2020	7/1/2020	8/1/2020	9/1/2020	10/1/2020	11/1/2020	12/1/2020	
3		Sales Rep ID	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
4		1	\$ 159,182	\$ -	\$ 247,262	\$ 156,746	\$ 736,819	\$ 251,239	\$ 274,492	\$ 466,263	\$ -	\$ 315,779	\$ -	\$ 996,112	
5		2	230,254	432,621	-	461,898	359,130	480,945	564,314	640,183	620,017	469,879	183,436	741,526	
6		3	1,135,702	1,274,247	763,525	441,812	1,338,174	1,157,015	961,599	-	671,428	458,556	951,167	268,581	
7		4	-	-	223,495	-	-	225,320	225,869	196,953	-	176,651	-	241,825	
8		5	384,465	272,842	284,841	-	1,087,529	923,381	455,437	908,646	501,294	177,761	559,874	378,116	
9		6	226,509	189,041	554,264	280,018	218,101	213,913	216,848	211,090	205,635	286,721	172,011	191,361	
10		7	162,928	551,062	254,536	652,300	276,197	440,263	400,173	173,662	193,652	1,080,958	275,727	349,371	
11		8	225,276	635,752	252,118	452,591	332,075	286,017	216,818	684,726	516,123	234,131	-	-	
12		9	464,931	-	537,280	165,772	226,537	-	-	699,899	-	247,267	469,094	276,065	
13															
14		Month:	Jul												
15		Sales Rep ID:	7												
16															
17		Sales:													

You have named the entire data range extending from cell B3 through N12 “Table_2020”. You attempt to write the following function in cell C17:

“=VLOOKUP(C15,Table_2020,HLOOKUP(C14,Table_2020,1,FALSE),FALSE)”

Why does this function **NOT** work correctly, and how can you fix it?

- HLOOKUP will not return the POSITION of the month, so you need to use MATCH or otherwise pass in the position of the month in the table.
- You entered “FALSE” when you should have entered “TRUE,” or “1” as the last input to these functions.
- The “1” in the HLOOKUP function should actually be “0” because the first row of a table is always counted as the “zero row” in lookup functions.
- It’s not possible to write this function with lookup functions – you need INDEX/MATCH or database functions instead.

15. Now you want to write the same function, but use INDEX and MATCH instead of the lookup functions. Which of the following answer choices is the correct function?

- =INDEX(Table_2020, MATCH(C14,B3:N3,0), MATCH(C15,B3:B12,0))
- =INDEX(Table_2020,MATCH(C15,B4:B12,0),MATCH(C14,C3:N3,0))
- =INDEX(Table_2020,MATCH(C15,Table_2020,0),MATCH(C14,Table_2020,0))
- =INDEX(Table_2020,MATCH(C15,B3:B12,0),MATCH(C14,B3:N3,0))

16. When is it definitely better to write a lookup function using INDEX and MATCH rather than VLOOKUP or HLOOKUP?

- a. When the row and/or column position of the item you're looking for might change.
- b. The main benefit is speed – since INDEX and MATCH are non-volatile functions, Excel will run the calculations more quickly.
- c. The main drawback is your own speed – it takes longer to write an INDEX/MATH combination, so only do it if you have a lot of extra time to make your model more robust.
- d. If you are searching according to multiple complex criteria, the INDEX/MATCH combination is superior since you can only match by one value with VLOOKUP or HLOOKUP.

17. In the lesson on INDEX, MATCH, and INDIRECT in the Excel course, we go through an example of how to use the functions to locate data in “messy” real estate data exported from PDF files. As a refresher, an excerpt of the file and the formulas is shown below:

	A	B	C	D	E	F	G	H	I
1	Region:			REIT:		Apartment Homes	Q4 12 Rental Rate	Q4 11 Rental Rate	Q4 12 Rental Increase %
2	New England								
3	Boston, MA			AVB		4,719	\$ 2,100	\$ 2,021	3.9%
4									=IFERROR(INDEX(INDIRECT(\$D4&"_Port!\$A\$1:\$Z\$100"),MATCH(\$A4,INDIRECT(\$D4&"_Port!\$A\$1:\$A\$100"),0),
5									MATCH(H\$1,INDIRECT(\$D4&"_Port!\$A\$1:\$Z\$1"),0),"")
6	Fairfield-New Haven, CT			AVB		2,347	\$ 2,080	\$ 2,047	1.6%

What makes it both necessary AND possible to write such a complex function to look up key data such as Apartment Homes, the Q3 Rental Rate, and so on, in the same geography across different companies’ property portfolios (see the tabs at the bottom)?

- Because the data is arranged in a different order in each file, so we can’t specify an exact column number for each data point.
- Because there are 3 spreadsheets with very similar names, so it is an ideal use case for the INDIRECT function – we can attach the text in the “REIT” column to “_Port” to refer to each spreadsheet.
- It’s not necessary to do this – we could replicate it this exact functionality with VLOOKUP since it’s a relatively small worksheet with only 3 tabs.
- Because we do know the column NAMES, but we don’t know the positions of those columns in the other 3 tabs.
- Because the data range is exactly cell A1 through Z100 in each spreadsheet – if the data range were different, this function would not work.
- Because each REIT shown here owns properties in some of the same geographies – if there were no overlap, it wouldn’t be possible to write such a function.

18. You're attempting to use the INDIRECT function to reference a single cell in another worksheet of an Excel file. Each worksheet in this file has monthly sales data for a single year (e.g. 2019 sales by month, 2020 sales by month, and so on). You are trying to access cell C4 in a worksheet called "2020-Monthly" (without the quotes). You also have a named cell called "Year" in a custom date format that contains the current year. You write the following function access cell C4 in the 2020-Monthly worksheet:

```
=INDIRECT(TEXT(Year,"yyyy")&"-Monthly!C4")
```

As soon as you enter this, Excel produces a #REF! error. What's wrong with this function and how can you fix it?

- a. You can't use the "&" operator here because you're concatenating text WITHIN a function – you should use "+" rather than "&".
- b. You're missing a single quote before the worksheet name, and another single quote after the worksheet name – fix it by inserting the single quotes.
- c. You do not need to use the TEXT function around the Year named cell here – once you remove that, the error message will go away.
- d. You need to anchor the specific cell reference in the "2020-Monthly" worksheet – it won't work inside the INDIRECT function unless it is written as \$C\$4.

19. What's the advantage of using database functions such as DSUM and DCOUNT to aggregate data, compared to complex combinations of functions that use SUMPRODUCT or SUMIFS / COUNTIFS to do the same thing?

- a. Database functions are simpler and faster to write and are less error-prone since you enter all the match criteria explicitly on the worksheet.
- b. It's easier for someone else looking at your file afterward to understand database functions than it is to understand the other methods.
- c. DSUM and DCOUNT don't offer many advantages, but the DGET function is a great improvement since you can use more criteria.
- d. It is easier to aggregate data with multiple conditions when you enter each condition in a separate cell, rather than as part of a long formula.
- e. Database functions will alert you if you've entered an invalid field, whereas you might get #REF! or #N/A errors with the others.

20. You have written a database function to retrieve the total dollar amount of all orders placed that meet very specific criteria, shown in the screenshot below:

	A	B	C	D	E	F	G	I
19		Database Functions to Summarize Sales and Order Counts:						
20								
21			State	Region	Order Dollar Amount	Order Date	Sales Rep ID	
22			NY	Northeast	>50000	>1/1/2014		
23								
24		Order Total:		=DSUM(Orders,Orders!J2,C21:G22)				
25		Order Count:		0				

When you enter this function, however, Excel displays “\$0” for the Order Total in cell D24. What is the MOST likely reason why this is not working correctly?

- You’ve entered the function inputs in the wrong order – the C21:G22 range should be first because that’s the criteria you’re matching to.
- Column J in the “Orders” worksheet might contain text rather than numbers, so the sum would be \$0.
- There are too many spaces in between “Order” and “Date” in cell F21 – as a result, Excel won’t match this field to the column in the “Orders” data range.
- You’ve forgotten to include single quotes around the Orders!J2 reference, and they are required for database functions to work.

21. Suppose you want to transpose data from Column C, in the C8:C17 range shown in the screenshot below, to be in row 28 and run across from cell C28 to L28:

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2	Summary and Analysis of Due Diligence Data - Customer Orders											
3												
4	Sales Data and Statistics by Year:						Sales by Sales Rep, Month, and Year:					
5												
6			Total	Average	Total # of	Minimum	Maximum		Sales Rep Name:	Abbigail Sparrow		
7	Year:	Total Sales:	Order Size:	Orders:	Order:	Order:			Sales Rep ID:	1		
8	2011	\$ 1,743,813	\$ 51,289	34	\$ 25,997	\$ 73,494			Select Year:	2020		
9	2012	3,195,073	63,901	50	40,162	87,352			Select Month:	Dec	12/1/2020	
10	2013	4,743,562	75,295	63	51,960	99,620			Monthly Sales:	\$ 996,112		
11	2014	7,907,679	102,697	77	61,095	139,251						
12	2015	10,711,810	121,725	88	75,269	174,319						
13	2016	13,075,327	134,797	97	100,789	176,709			Sales by Region, Month, and Year:			
14	2017	17,426,599	151,536	115	105,590	203,535						
15	2018	23,677,370	171,575	138	120,263	219,901			Region:	Northeast		
16	2019	29,151,106	188,072	155	137,521	239,306			Select Year:	2020		
17	2020	40,133,015	220,511	182	150,412	289,469			Select Month:	Jan	1/1/2020	
18												
26												
27												
			2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
28	Revenue:	=TRANPOSE(C8:C17)										

You enter the =TRANPOSE(C8:C17) function in cell C28, exactly as shown above, but it does not work and the data is not properly transposed to cell C28 through L28. What's the problem and how can you fix it?

- Before entering TRANSPOSE, you need to select the entire area that you'll be transposing the data TO – so in this case, C28 through L28 must be selected before you even start entering the function.
- The number of cells in the column is different from the number of cells in the row, so you need to adjust this and make them the same before entering this function.
- You need to anchor the C8:C17 range first so that it shows up as \$C\$8:\$C\$17 – otherwise, Excel will incorrectly move to a new column in each subsequent cell in row 28.
- You need to press Ctrl + Shift + Enter instead of just normal Enter, or you won't get brackets around the TRANSPOSE function and it won't work correctly.

22. You are writing a MINIF function that determines the minimum dollar order placed in a certain date range. Since Excel does not have a built-in function for this, you have to write your own using your knowledge of array functions. The function you write is shown in the screenshot below:

	A	B	C	D	E	F	G	H
1								
2		Summary and Analysis of Due Diligence Data - Customer Orders						
3								
4		Sales Data and Statistics by Year:						
5								
6			Total	Average	Total # of	Minimum	Maximum	
7		Year:	Sales:	Order Size:	Orders:	Order:	Order:	
8		2011	\$ 1,743,813	\$ 51,289	34	=MIN(IF((Orders!\$K\$3:\$K\$1001>=B8)*		
9		2012	3,195,073	63,901	50	(Orders!\$K\$3:\$K\$1001<B9)>0,		
10		2013	4,743,562	75,295	63	Orders!\$J\$3:\$J\$1001,""))		
11		2014	7,907,679	102,697	77	61,095	139,251	
12		2015	10,711,810	121,725	88	75,269	174,319	
13		2016	13,075,327	134,797	97	100,789	176,709	
14		2017	17,426,599	151,536	115	105,590	203,535	
15		2018	23,677,370	171,575	138	120,263	219,901	
16		2019	29,151,106	188,072	155	137,521	239,306	
17		2020	40,133,015	220,511	182	150,412	289,469	
18								

Column K in the “Orders” worksheet contains the dates for all the orders, and column J shows the dollar amounts. Which of the following answer choices best describe(s) what’s required for this function to work?

- The double quotes (""") at the end are NOT necessary – writing a “0” there would have the same effect since Excel assigns the same internal value to “0” and ""” in a formula.
- It is NOT necessary to anchor the data ranges in the Orders worksheet – writing Orders!K3:K1001, for example, would have the same impact as writing Orders!\$K\$3:\$K\$1001 since this is an array function.
- Pressing Ctrl + Shift + Enter at the end to make it an array function is NOT required if you’re just entering the formula in a single cell – you only need to do that when entering the formula across multiple cells.
- You do NOT need to multiply the two inner parts of the IF function to produce a 1 or 0 – you could just the AND operator instead.
- It is NOT possible to simply copy and paste this function down because by default, array functions never shift the row or column component of each reference down.
- Since you are referencing multiple worksheets in the formula, you need to specify the name of the current worksheet in front of the references to cells B8 and B9 – it won’t work otherwise.

23. What is the **BEST** shortcut key / Excel feature that you can use to go from the “Before” screenshot to the “After” screenshot shown below?

BEFORE:

	A	B	C
1	1		
2	2		
3	3		
4	4		

AFTER:

	A	B	C
1	1		
2	2		1
3	3		2
4	4		3

- Alt + D + F + A (or Alt + A + Q) and the Advanced Data Filter feature to allow only whole numbers between 1 and 4.
- Alt + D + L (or Alt + A + V + V) to Validate Data and only allow whole numbers between 1 and 4.
- Alt + D + L (or Alt + A + V + V) to Validate Data and only allow the list contained in the cell range A1:A4.
- There’s no built-in Excel feature that lets you do this, but you can write a macro or use VBA to create this drop-down menu.

24. For which of the following reasons is **OFFSET** more powerful than **CHOOSE**?

- It can return a range rather than a single value.
- It’s more flexible because it allows you to enter additional cells or scenarios above or below the existing ones you’ve entered and retrieve them simply by changing the number of rows or columns you’re offsetting.
- You have to specify a reference cell with **OFFSET**, so you have more options for where the data is coming from.
- None of the above – **CHOOSE** is generally more useful than **OFFSET**, so the question premise is false.

25. In the screenshot below, cell A7 contains the output of an OFFSET function that uses cell A1 as the reference. What is the correct OFFSET formula used to produce this output, based on the contents of cell A7 and the rest of the data on this page?

	A	B	C	D
1	1	6	11	16
2	2	7	12	17
3	3	8	13	18
4	4	9	14	19
5	5	10	15	20
6				
7	14			
8				

- a. =OFFSET(A1,2,2)
 - b. =OFFSET(A1,3,3)
 - c. =OFFSET(A1,2,3)
 - d. =OFFSET(A1,3,2)
26. Why do we need to enable iterative calculations to deal with circular references in some financial models?
- a. Without using iterative calculations, Excel “freezes” and does not correctly calculate the result when the input to a formula depends on the output of that same formula.
 - b. This is not strictly true – iterative calculations may make some calculations more accurate, but they’re not necessarily required.
 - c. Circular references appear implicitly in all calculations in financial models, and iterative calculations should always be enabled.
 - d. Circular references only appear when there is an error in your model, and enabling iterative calculations allows you to continue working without fixing the error.

27. In the table below, sales representatives earn a 20% commission on sales if they exceed the quota of 50,000. What shortcut did you MOST likely use to go from the “Before” screenshot to the “After” screenshot, which shows the cells with results that depend on the commission percentage?

BEFORE:

Representative	Sales	Commission
Rep 1	50,000	-
Rep 2	60,000	12,000
Rep 3	70,000	14,000
Rep 4	40,000	-
Quota	50,000	
Commission	20%	

AFTER:

Representative	Sales	Commission
Rep 1	50,000	-
Rep 2	60,000	12,000
Rep 3	70,000	14,000
Rep 4	40,000	-
Quota	50,000	
Commission	20%	



- Alt + M + P (or Alt + T + U + T)
- Alt + M + D (or Alt + T + U + D)
- Ctrl + [
- Ctrl +]

28. You have calculated Net Income in the screenshot below by starting with Revenue and then subtracting all the other items (Cost of Goods Sold, Operating Expenses, Depreciation & Amortization, Interest Expense, and Taxes). However, you're not sure that your formula correctly captured all these items. What is the *MOST* efficient way to see whether or not your formula is correct?

Revenue	1,158
Cost of Goods Sold	503
Operating Expenses	361
Depreciation & Amortization	54
Interest Expense	38
Taxes	81
Net Income	175

- Alt + M + P (or Alt + T + U + T)
- Alt + M + D (or Alt + T + U + D)
- Ctrl + [
- Ctrl +]

29. As the red arrow in the screenshots below indicates, there is a comment in cell D4. What shortcut key can you use to edit the comment, as shown in the "Before" and "After" screenshots below?

BEFORE:

	A	B	C	D
1	First Name	Last Name	GPA	SAT Score
2	Lynn	Francisco	2.2	1200
3	Marjorie	Copeland	3.7	730
4	Dottie	Olds	1	1560

AFTER:

	A	B	C	D	E	F
1	First Name	Last Name	GPA	SAT Score		
2	Lynn	Francisco	2.2	1200		
3	Marjorie	Copeland	3.7	730		
4	Dottie	Olds	1	1560	Second attempt.	
5	Asher	Schmid	2.3	1110		
6	Vesta	Southerland	3.5	700		
7	Jada	Stegall	4	1250		

- Alt + R + C (or Alt + I + M)
- Alt + R + T (or Shift + F2)
- Alt + R + D (or Alt + E + A + M)
- F2

30. As indicated by the red arrows, the data set below contains several comments. What is the FASTEST way to delete all the comments?

First Name	Last Name	GPA	SAT Score
Lynn	Francisco	2.2	1200
Marjorie	Copeland	3.7	730
Dottie	Olds	1	1560

- Navigate to each cell containing a comment and press Del.
- Navigate to each cell containing a comment and press Alt + R + D (or Alt + E + A + M, or Shift + F2 + Del on the Mac).
- Use the shortcut Alt + R + D (or Alt + E + A + M, or Shift + F2 + Del on the Mac) to delete all comments.
- Press F5, Alt + S + C (or F5, CMD + S, CMD + C on the Mac) and then press Del.
- Press F5, Alt + S + C (or F5, CMD + S, CMD + C on the Mac) and then press Alt + R + D (or Alt + E + A + M, or Shift + F2 + Del on the Mac).

31. When you're error-checking fields in a model, why is it better to use IFERROR instead of putting IF(ISERROR()) around any formula that might result in an error message?

- If you use IFERROR, Excel will only calculate what is in parentheses once and so it's more efficient.
- You won't have to write the same formula twice if you use IFERROR.
- It's more readable for anyone else reviewing your spreadsheet, since you won't have duplicate formulas in these cells.
- All of the above.

32. You're trying to use the "Goal Seek" functionality in a leveraged buyout (LBO) model, shown below, to determine the MAXIMUM price that a private equity firm can pay for a company to achieve a 20% IRR under a given set of assumptions. Why would this NOT work correctly in the current setup as shown below?

222	Term Loan B:																		
223	Subordinated Note:																		
224	Optional Repayment Total:																		
225	Cash Generated on Balance Sheet:																		
226	Total Uses of Funds:																		
227																			
228																			
229	Investor Returns																		
230																			
231																			
232	EBITDA:																		
233	EBITDA Multiple:																		
234	Enterprise Value:																		
235	Investor Equity:																		
236																			
237	IRR:																		
238																			

- Goal Seek will not work for complex scenarios like this where many different input cells determine the final output – it has to be something much simpler.
- Goal Seek will not work with circular references, and as indicated by the "Calculate" text at the bottom, there are circular references in this LBO model.
- There might be multiple different Purchase Premiums paid for the company that could result in a 20% IRR, so Goal Seek will not work here.
- You should be attempting to solve for the "Investor Equity" line item in cell K235 instead – this setup won't work when you're solving for a percentage.

33. You are creating the data table shown below. List the cells, in order, that should be in the ??? cell in the top-left corner of the table, the Row Input Cell for the data table, and the Column Input Cell for the data table.

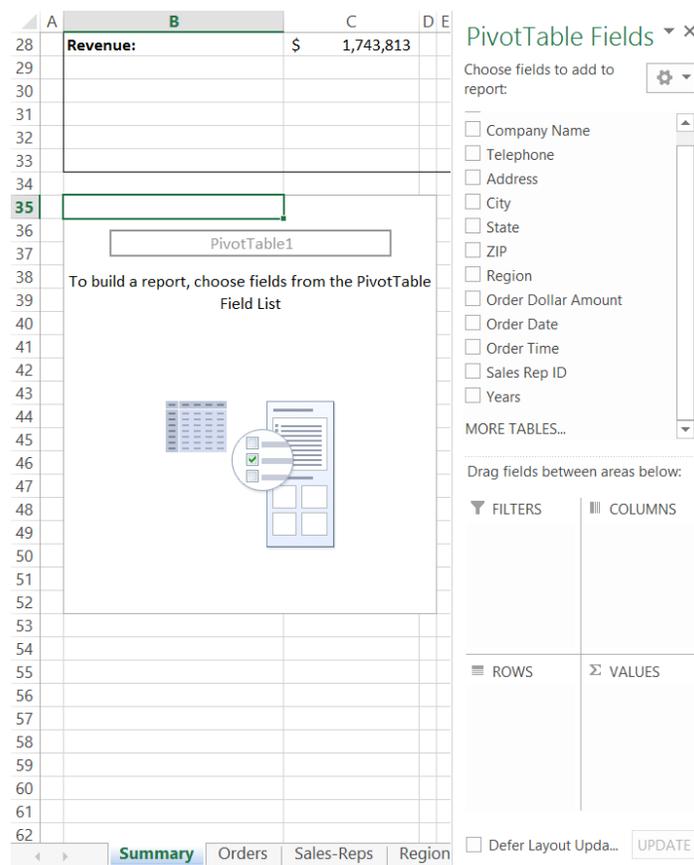
	A	B	C	D	E
1	Enterprise Value:			100	
2	EBITDA:			20	
3	EV / EBITDA:			5.0 x	
4					
5	=???	10	20	30	40
6	150	15.0 x	7.5 x	5.0 x	3.8 x
7	125	12.5 x	6.3 x	4.2 x	3.1 x
8	100	10.0 x	5.0 x	3.3 x	2.5 x
9	75	7.5 x	3.8 x	2.5 x	1.9 x

- D1, D2, D3
- D2, D3, D1
- D3, D1, D2
- D1, D3, D2
- D3, D2, D1
- D2, D1, D3

34. For which of the following data sets would it make the MOST sense to create a pivot table?

- a. Monthly sales, by sales rep, by region, over the past 10 years.
- b. Annual revenue, EBIT, and EBITDA for a company over the past 10 years, both before and after adjusting for non-recurring charges.
- c. Monthly profit generated by product, over the past 10 years.
- d. Customers by geography, over the past 10 years.

35. Suppose that you've created a blank pivot table, shown in the screenshot below, based on source data from another worksheet. You want to display the total order dollar amount by year and month within each year, and then by region.



The screenshot shows an Excel spreadsheet with a PivotTable in cell B36. The PivotTable is currently blank. The PivotTable Fields task pane is open on the right side of the screen. The task pane shows a list of fields to add to the report, including 'Company Name', 'Telephone', 'Address', 'City', 'State', 'ZIP', 'Region', 'Order Dollar Amount', 'Order Date', 'Order Time', 'Sales Rep ID', and 'Years'. The task pane also has sections for 'FILTERS', 'COLUMNS', 'ROWS', and 'VALUES'. The spreadsheet shows a single data point: Revenue: \$ 1,743,813 in cell C28. The worksheet tabs at the bottom are 'Summary', 'Orders', 'Sales-Reps', and 'Region'.

The month and year groupings should be displayed in the LEFT column of the table, and the regions should go across the topmost row. Which of the following screenshots shows the CORRECT positioning under the “Drag fields between areas below:” text required to accomplish this, assuming that you ONLY drag the fields specified above and do NOT go in and modify the table by grouping fields together?

- a. Drag fields between areas below:
- | | |
|---------------------------|---|
| <p>FILTERS</p> | <p>COLUMNS</p> <p>Years</p> <p>Order Date</p> |
| <p>ROWS</p> <p>Region</p> | <p>VALUES</p> <p>Sum of Or...</p> |
- b. Drag fields between areas below:
- | | |
|-------------------------------|-----------------------------------|
| <p>FILTERS</p> | <p>COLUMNS</p> <p>Region</p> |
| <p>ROWS</p> <p>Order Date</p> | <p>VALUES</p> <p>Sum of Or...</p> |
- c. Drag fields between areas below:
- | | |
|--|-----------------------------------|
| <p>FILTERS</p> | <p>COLUMNS</p> <p>Region</p> |
| <p>ROWS</p> <p>Order Date</p> <p>Years</p> | <p>VALUES</p> <p>Sum of Or...</p> |
- d. Drag fields between areas below:
- | | |
|--|-----------------------------------|
| <p>FILTERS</p> | <p>COLUMNS</p> <p>Region</p> |
| <p>ROWS</p> <p>Years</p> <p>Order Date</p> | <p>VALUES</p> <p>Sum of Or...</p> |

36. Below is a data set that contains orders by company. As shown below, the data includes the name of the company placing the order, the state in which the company is located, how many products they ordered, and the price that they paid per product.

Company Name	State	Quantity	Price
Incom Corporation	FL	22	1000
Vandelay Industries	FL	17	1000
Smith and Co.	CA	26	2500
Incom Corporation	FL	36	1000
Kumatsu Motors	TX	26	2500
Matsumura Fishworks	TX	10	5000
Incom Corporation	FL	35	5000
Smith and Co.	CA	22	1000
Incom Corporation	FL	29	5000
Kumatsu Motors	TX	26	1000
Matsumura Fishworks	TX	34	2500
Petrox Oil Company	CA	28	2500
Kumatsu Motors	TX	39	1000
Petrox Oil Company	CA	22	1000
Smith and Co.	CA	16	1000
Incom Corporation	FL	34	5000
Kumatsu Motors	TX	31	2500
Vandelay Industries	FL	14	1000
Smith and Co.	CA	39	5000

Which of the pivot tables below shows the total NUMBER of products sold in each state?

a.

Row Labels	Sum of Price
CA	13000
FL	19000
TX	14500
Grand Total	46500

b.

Row Labels	Sum of Quantity
CA	153
FL	187
TX	166
Grand Total	506

c.

Row Labels	Sum of Quantity
Incom Corporation	156
Kumatsu Motors	122
Matsumura Fishworks	44
Petrox Oil Company	50
Smith and Co.	103
Vandelay Industries	31
Grand Total	506

d.

Row Labels	Sum of Price
Incom Corporation	17000
Kumatsu Motors	7000
Matsumura Fishworks	7500
Petrox Oil Company	3500
Smith and Co.	9500
Vandelay Industries	2000
Grand Total	46500