

Office 2016– Excel Basics 13

Video/Class Project #25

Excel Basics 13: IF Function Made Easy! IS Functions Too!

Goal in video # 13: Learn the basics of the IF Function and the IS Functions.

Topics Covered in Video:

- 1) **Logical Formulas** evaluate to TRUE or FALSE.
 - i. Logical Formulas use Comparative Operators
 - ii. Example:

	A	B
1	Bonus Amount	\$500.00
2	Bonus Hurdle	\$50,000.00
3		
4	Your Sales	\$65,000.00
5	Do You Get Bonus?	=B4>=B2

- 2) Use **IF function** to put one of two things into a cell or formulas

- i. You can put:
 - Two Numbers
 - Two Words (also referred to as Text or Text String)
 - Two Formulas
 - Two anything, like a Formula or Text
- ii. IF Functions screen tip” looks like this:

IF(logical_test, [value_if_true], [value_if_false])

1. **logical_test** argument gets the Logical Formula that comes out to be TRUE or FALSE
2. **value_if_true** argument is what will go in cell if Logical Formula gets a TRUE
3. **value_if_false** argument is what will go in cell if Logical Formula gets a FALSE

- iii. Example of putting one of two numbers into a cell:

	A	B
1	Bonus Amount	\$500.00
2	Bonus Hurdle	\$50,000.00
3		
4	Your Sales	\$65,000.00
5	Do You Get Bonus?	
6	Your Bonus	=IF(B4>=B2,B1,0)
7		IF(logical_test, [value_if_true], [value_if_false])
8	IF for putting 1 of 2 Things is a Cell	

- iv. Example of putting one of two Text Items in a cell:

D	E	F	G	H
Debit Numbers	Credit Numbers			
\$58	\$58			
\$30	\$30			
\$43	\$43			
\$21	\$21			
		In Balance?		
\$152	\$152	FALSE		
		=IF(D8=E8,"In Balance","Not In Balance")		
		IF(logical_test, [value_if_true], [value_if_false])		

3) Zero Length Text String to use in Formula to Show Nothing

- The way to Show Nothing in an Excel Formula is to use a Zero Length Text String by using Two Double Quotes with nothing between them, like: ""
- It is called a Zero Length Text String because:
 - The Double Quotes make it Text
 - and
 - There are no characters typed between the Double Quotes, the Text String has Zero Length.
- Example:


45	Ex 9	Customer	Account Balance	"No Balance" or Show Nothing		Under Hurdle Text:	Customers either the owe company money or they have a zero balance "No Balance"
46		Rod Barbara	0	=IF(C46=0,\$H\$46,"")		No Balance	
47		Elinore Cromedy	-25.4	IF(logical_test, [value_if_true], [value_if_false])			No Balance or Show Nothing
48		Twanda Spruce	101		Since zero is ALWAYS the hurdle		1 of 2 Text Items
49		Darius Raffety	0	No Balance	We can hard code		
50		Frida Vickerson	415.15		criteria into formula		
51							
52		The way to Show Nothing in an Excel Formula is to use a					
53		Zero Length Text String by using Two Double Quotes with nothing between them, like: ""					

4) IS Functions


- IS Functions allow you to ask a question and get a TRUE or FALSE answer.
- Types of questions that you ask with IS Functions:
 - Is the value a Number?
 - Is the value Text?
 - Is the value a formula?
- List of ISFUNCTIONS:
 - ISNUMBER(value) Value refers to a number.
 - ISTEXT(value) Value refers to text.
 - ISBLANK(value) Value refers to an empty cell.
 - ISERROR(value) Value refers to any error value.
 - ISNA(value) Value refers to the #N/A error value.
 - ISERR(value) Value refers to any error value except #N/A.
 - ISNONTTEXT(value) Value refers to any item that is not text.
 - ISLOGICAL(value) Value refers to a logical value.
 - ISFORMULA(value) Value refers to a formula

5) Don't forget Excel's Golden Rule:


Excel's Golden Rule:



If a formula input can change, put it into a cell and refer to it in the formula with a cell reference.



If a formula input will not change, you can type it into a formula (like 12 months in a year or 7 days in a week).



Always label your formula inputs so that the formula input can be clearly understood by any user of the spreadsheet solution; by doing this we properly "document the spreadsheet solution (model)".

6) Comparative Operator Words:

Comparative Operator:	=	>	>=	<	<=	<>
Possible Words:	equal	greater than	greater than or equal to	less than	less than or equal to	not
		more than	at least	below	at most	complement of
		above	no less than	under	no more than	
			X or more		X or less	
Examples of Words:	equals 2000	greater than 2000	greater than or equal to 2000	less than 2000	less than or equal to 2000	not 2000
		more than 2000	at least 2000	below 2000	at most 2000	complement of 2000
		above 2000	no less than 2000	under 2000	no more than 2000	
			2000 or more		2000 or less	

If Hurdle:
2000

7) Examples from Video:

	A	B	C	D	E	F	G
1		IF for putting 1 of 2 Things is a Cell					
2							
3		Contact reads: If employee has sales of \$50,000 or more they get a bonus					
4		Are Your Sales equal to or greater than \$50,000?					
5							
6	Ex 1	Your Sales	\$65,000.00				
7		Do You Get Bonus?	TRUE				
8		Your Bonus	\$500.00		Your Bonus	=IF(C6>=C11,C10,0)	
9							
10		Bonus Amount	\$500				
11		Bonus Hurdle	\$50,000				

	A	B	C	D	E	F	G	H
14	Ex 2	Debit Numbers	Credit Numbers					
15		\$58	\$58					
16		\$30	\$30					
17		\$43	\$43					
18		\$21	\$21					
19								
20				In Balance?				
21				FALSE				
22		\$152	\$152	Not In Balance	In Balance?	=IF(B22=C22,"In Balance","Not In Balance")		

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
3	Ex 3	Employee	Sales	Bonus? TRUE or FALSE?		Hurdle				Contact reads: "If employee has sales of \$20,000 or more they get a bonus"				
4		Rod Barbaria	17,382.00	FALSE		20000								
5		Elinore Cromedy	19,504.00	=C5>=\$F\$4							TRUE or FALSE in each cell			
6		Twanda Spruce	29,999.99	TRUE							1 of 2 Logical values			
7		Darius Raffety	30,000.01	TRUE										
8		Frida Vickerson	16,081.00	FALSE										

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
10	Ex 4	Employee	Sales	Bonus? "Bonus" or "No Bonus"		Hurdle				Contact reads: "If employee has sales of \$20,000 or more they get a bonus"				
11		Rod Barbaria	17,382.00	No Bonus		20000								
12		Elinore Cromedy	19,504.00	=IF(C12>=\$F\$11,"Bonus","No Bonus")							"Bonus" or "No Bonus" in each cell			
13		Twanda Spruce	29,999.99	IF(logical_test, [value_if_true], [value_if_false])							1 of 2 Text Items			
14		Darius Raffety	30,000.01	Bonus										
15		Frida Vickerson	16,081.00	No Bonus										

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
17	Ex 5	Employee	Sales	Bonus? 0 or \$750		Hurdle	Bonus			Contact reads: "If employee has sales of \$20,000 or more they get a bonus of \$750"				
18		Rod Barbaria	17,382.00	0		20000	750							
19		Elinore Cromedy	19,504.00	=IF(C19>=\$F\$18,\$G\$18,0)							750 or 0 in each cell			
20		Twanda Spruce	29,999.99	IF(logical_test, [value_if_true], [value_if_false])							1 of 2 Numbers			
21		Darius Raffety	30,000.01	750										
22		Frida Vickerson	16,081.00	0										

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
24	Ex 6	Employee	Sales	Bonus Commission? 5% or 1.5%		Hurdle	Bonus %	No Bonus %		Contact Reads if you have sales of more than \$30,000, you earn a 5% bonus, otherwise you get a 1% bonus 0.05 or 0.015 in each cell 1 of 2 Numbers				
25		Rod Barbaria	17,382	1.00%		30000	0.05	0.01						
26		Elinore Cromedy	19,504	=IF(C26>\$F\$25,\$G\$25,\$H\$25)										
27		Twanda Spruce	30,000	IF(logical_test, [value_if_true], [value_if_false])										
28		Darius Raffety	30,000	5.00%										
29		Frida Vickerson	16,081	1.00%										

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
31	Ex 7	Employee	Sales	Calculate Commission Paid		Hurdle	Bonus %	No Bonus %		Contact Reads if you have sales of more than \$30,000, you earn a 5% bonus, otherwise you get a 1% bonus 0.05 or 0.015 into each formula 1 of 2 Numbers				
32		Rod Barbaria	17,382.00	173.82		30000	0.05	0.01						
33		Elinore Cromedy	19,504.00	=IF(C33>\$F\$32,\$G\$32,\$H\$32)*C33										
34		Twanda Spruce	29,999.99	299.9999										
35		Darius Raffety	30,000.01	1500.0005										
36		Frida Vickerson	16,081.00	160.81										

	A	B	C	D	E	F	G	H	I	J	K	L	M
38	Ex 8	Phone Owners	Total Data (GB)	"Under" or "Over"		Hurdle	Past Hurdle Text:	Under Hurdle Text:		Phone contact reads if you data is under 1 GB per month you do not pay extra "Under" or "Over" in each cell 1 of 2 Text Items			
39		Rod Barbaria	1.959	Over		1	Over	Under					
40		Elinore Cromedy	0.935	=IF(C40<\$F\$39,\$H\$39,\$G\$39)									
41		Twanda Spruce	1.239	IF(logical_test, [value_if_true], [value_if_false])									
42		Darius Raffety	0.281	Under									
43		Frida Vickerson	1.316	Over									

	A	B	C	D	E	F	G	H	I	J	K	L	M
45	Ex 9	Customer	Account Balance	"No Balance" or Show Nothing				Under Hurdle Text:		Customers either the owe company money or they have a zero balance "No Balance"			
46		Rod Barbaria	0	No Balance				No Balance					
47		Elinore Cromedy	-25.4	=IF(C47=0,\$H\$46,"")							No Balance or Show Nothing		
48		Twanda Spruce	101	<small>=IF(logical_test, [value_if_true], [value_if_false])</small>	Since zero is ALWAYS the hurdle						1 of 2 Text Items		
49		Darius Raffety	0	No Balance	We can hard code criteria into formula								
50		Frida Vickerson	415.15										
51													
52		The way to Show Nothing in an Excel Formula is to use a											
53		Zero Length Text String by using Two Double Quotes with nothing between them, like: ""											

	A	B	C	D	E	F	G
1					Ex 10	Ex 11	Ex 12
2					=ISNUMBER(C7)	=ISBLANK(C7)	=ISTEXT(C7)
3					ISNUMBER	ISBLANK	ISTEXT
4					Is it a Number?	Is cell empty?	Is it Text?
5							
6	Date	Invoice Number	Sales	Product	Sale Entered?	Sale Not Entered?	Is Text?
7	1/1/2017	2451	\$853.00	Quad	TRUE	FALSE	FALSE
8	1/5/2017	2452		Kangaroo	FALSE	TRUE	FALSE
9	1/4/2017	2453	\$1,035.00	Kangaroo	TRUE	FALSE	FALSE
10	1/7/2017	2454	\$918.00	Aspen	TRUE	FALSE	FALSE
11	1/11/2017	2455		Sunset	FALSE	TRUE	FALSE
12	1/9/2017	2456	\$918.00	Carlota	TRUE	FALSE	FALSE
13	1/3/2017	2457	\$545.00	Aspen	TRUE	FALSE	FALSE
14	1/9/2017	2458	\$1,273.00	Aspen	TRUE	FALSE	FALSE
15	1/5/2017	2459	\$614.00	Quad	FALSE	FALSE	TRUE
16	1/4/2017	2460	\$872.00	Quad	TRUE	FALSE	FALSE
17	1/13/2017	2461	\$671.00	Quad	TRUE	FALSE	FALSE
18	1/3/2017	2462		Kangaroo	FALSE	TRUE	FALSE
19	1/9/2017	2463	\$722	Quad	FALSE	FALSE	TRUE
20	1/12/2017	2464	761	Aspen	TRUE	FALSE	FALSE
21	1/11/2017	2465	1259	Carlota	TRUE	FALSE	FALSE
22	1/14/2017	2466	\$966.00	Carlota	TRUE	FALSE	FALSE
23	1/8/2017	2467	\$1,252.00	Sunset	TRUE	FALSE	FALSE

	A	B	C	D	E	F	G	H	I	J
1	Ex 13	Checkbook Register								
2										
3		Date	Check #/Trans #	Description	Add	Subtract	Checkbook Balance			
4		10/1/2013	Bal. Forward				\$ 5,000.00			
5		10/3/2013	Ch. 1034	Rent		\$ 500.00	=IF(ISBLANK(B5),"",G4+E5-F5)			
6		10/4/2013	Dept 5458	Pay	\$ 950.00		=IF(logical_test, [value_if_true], [value_if_false])			
7		10/4/2013	Ch 100				\$ 5,450.00			
8										
9										
10										

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
1	If sales are greater than 250 than categorize it as 'Large', otherwise 'Small'													Ex 14	
2	Company has used these Category names for years and has no plans of changing the names.														
3	Make a Cross Tabulated PivotTable Report that shows Country Code in Rows area and Sales Category in the Columns area.														
4															
5															
6										Date	Product	County Code	Units	Sales	Sales Category
7	Hurdle		250							12/16/2018	Frido Fast Catch	USA	36	263.52	=IF(L7>\$B\$7,"Large","Small")
8										1/18/2018	Aspen	ESP	2	37.82	Small
9	Sum of Sales	Sales Category								2/13/2018	Fun Fly	POL	2	37.82	Small
10	County Code	Large	Small	Grand Total						11/20/2018	Sunshine	ARE	2	38.4	Small
11	MAR	\$866.91	\$1,881.74	\$2,748.65						11/18/2018	Fun Fly	CZE	2	32.5	Small
12	ARE	\$1,401.96	\$1,908.23	\$3,310.19						12/18/2018	Fun Fly	USA	1	10.59	Small
13	ARG	\$4,929.96	\$4,322.55	\$9,252.51						4/16/2018	Majestic Beaut	UKR	4	55	Small