

Microsoft Excel - Working with Functions.



Working with Functions.

A function is a type of formula that returns a specific result.

Excel has a few hundred functions, the functions have been categorised into several categories. This makes it easier to locate the function required.

The Categories are:

Financial, Logical, Text, Date & Time, Lookup & Reference, Math & Trig and More Functions.

The categories can be found by selecting the Formulas tab.

Below we have included examples of some of the more common functions.

SUM	Creates a total from a list of numbers.
AVERAGE	Calculates the average from a list of numbers.
MIN	Picks the lowest value from a list of data.
MAX	Picks the highest value from a list of data.
COUNT	Counts the number of numeric entries in a list.
COUNTA	Counts the number of numeric or text entries in a list.

SUM Function.

The **SUM** function creates a total from a list of numbers.

It can be used either horizontally or vertically.

Examples of the **SUM** function

	A	B	C	D	E	F	G	H	I
1	SUM								
5									
6			Vertical						
7			100						
8			200						
9			300						
10			600						
11									
12			Single Cells						
13			100		300	600			
14				200					
15									
16			Multiple Ranges						
17			100		400				
18			200		500				
19			3000		600				
20					4800				
21									

AVERAGE Function.

The AVERAGE function calculates the average from a list of numbers.

If the cell is blank or contains text, the cell will not be used in the average calculation.

If the cell contains zero 0, the cell will be included in the average calculation.

Examples of the **AVERAGE** function

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	AVERAGE												
2													
3				Mon	Tue	Wed	Thu	Fri	Sat	Sun	Average		
4		Temp	30	31	32	29	26	28	27	29	=AVERAGE(D4:J4)		
5		Rain	0	0	0	4	6	3	1	2	=AVERAGE(D5:J5)		
6													
7				Mon	Tue	Wed	Thu	Fri	Sat	Sun	Average		
8		Temp	30		32	29	26	28	27	28.667	=AVERAGE(D8:J8)		
9		Rain	0		0	4	6	3	1	2.3333	=AVERAGE(D9:J9)		
10													
11				Mon	Tue	Wed	Thu	Fri	Sat	Sun	Average		
12		Temp	30	No	32	29	26	28	27	28.667	=AVERAGE(D12:J12)		
13		Rain	0	Reading	0	4	6	3	1	2.3333	=AVERAGE(D13:J13)		
14													

MIN Function.

This function picks the lowest value from a list of data.

Examples of the **MIN** function.

	A	B	C	D	E	F	G	H	I
1	MIN								
2									
3			Values					Minimum	
4			120	800	100	120	250	100	=MIN(C4:G4)
5									
6			Dates					Minimum	
7			01-Jan-98	25-Dec-98	31-Mar-98	27-Dec-98	04-Jul-98	01-Jan-98	=MIN(C7:G7)
8									

A	B	C	D	E	F	G	H	I
<p>In the following example the =MAX() function has been used to find the highest value for each region, month and overall.</p>								
	Sales	Jan	Feb	Mar		Region Max		
	North	£5,000	£6,000	£4,500		£6,000	=MAX(C23:E23)	
	South	£5,800	£7,000	£3,000		£7,000		
	East	£3,500	£2,000	£10,000		£10,000		
	West	£12,000	£4,000	£6,000		£12,000		
	Month Max	£12,000	£7,000	£10,000				
							=MAX(E23:E26)	
	Overall Max	£12,000						
							=MAX(C23:E26)	

COUNT Function.

This function counts the number of numeric entries in a list.

It will ignore blanks, text and errors.

Examples of the **COUNT** function.

	A	B	C	D	E	F	G	H
1	COUNT							
2								
3			Entries To Be Counted		Count			
4			10	20	30	3	=COUNT(C4:E4)	
5			10	0	30	3	=COUNT(C5:E5)	
6			10	-20	30	3	=COUNT(C6:E6)	
7			10	01-Jan-88	30	3	=COUNT(C7:E7)	
8			10	21:30	30	3	=COUNT(C8:E8)	
9			10	0.087811	30	3	=COUNT(C9:E9)	
10			10		30	2	=COUNT(C10:E10)	
11			10	Hello	30	2	=COUNT(C11:E11)	
12			10	#DIV/0!	30	2	=COUNT(C12:E12)	

	A	B	C	D	E	F	G	H	I
25	The following table was used by a builders merchant to calculate the number of sales for various products in each month.								
26									
27									
28			Item	Jan	Feb	Mar			
29			Bricks	£1,000					
30			Wood		£5,000				
31			Glass	£2,000	£1,000				
32			Metal	£1,000					
33			Count	3	2	0			
34				=COUNT(D29:D32)					

COUNTA Function.

This function counts the number of numeric or text entries in a list.

It will ignore blanks.

Examples of the **COUNTA** function.

A	B	C	D	E	F	G	H
COUNTA							
		Entries To Be Counted		Count			
10		20	30	3	=COUNTA(C4:E4)		
10		0	30	3	=COUNTA(C5:E5)		
10		-20	30	3	=COUNTA(C6:E6)		
10		01-Jan-88	30	3	=COUNTA(C7:E7)		
10		21:30	30	3	=COUNTA(C8:E8)		
10		0.587477	30	3	=COUNTA(C9:E9)		
10			30	2	=COUNTA(C10:E10)		
10		Hello	30	3	=COUNTA(C11:E11)		
10		#DIV/0!	30	3	=COUNTA(C12:E12)		