

What Is In The Dictionary ?

This workbook contains 173 worksheets, each explaining the purpose and usage of particular Excel functions.

There are also a number of sample worksheets which are simple models of common applications, such as Timesheet and Date Calculations.

Formatting

Each worksheet uses the same type of formatting to indicate the various types of entry.

North
100
100
100
300

=SUM(C13:C15)

Text headings are shown in grey.

Data is shown as purple text on a yellow background.

The results of Formula are shown as blue on yellow.

The formula used in the calulations is shown as blue text.

The Arial font is used exclusivley throughout the workbook and should display correctly with any installation of Windows.

Each sheet has been designed to be as simple as possible, with no fancy macros to accomplish the desrired result.

Printing

Each worksheet is set to print on to A4 portrait.

The printouts will have the column headings of A,B,C... and the row numbers 1,2,3... which will assist with the reading of the formula.

The ideal printer would be a laser set at 600dpi.

If you are using a dot matrix or inkjet, it may be worth switching off the colours before printing, as these will print as dark grey. (See the sheet dealing with Colour settings).

Protection

Each sheet is unprotected so that you will be able to change values and experiment with the calculations.

Macros

There are only a few very simple macros which are used by the various buttons to naviagte through the sheets. These have been written very simply, and do not make any attempt to change your current Toolbars and Menus.

What Do The Buttons Do ?

View

This button will display the worksheet containing the function example.

1. Click on the function name, then 2. Click on the **View** button.

Sort

Sort

This button sorts the list of functions into alphabetical order.

Category

Category

This describes the category the function is a member of.

Click this button to sort alphabetically.

Location

Location This shows where the function is stored in Excel. **Built-in** indicates that the function is part of Excel itself.

Analysis ToolPak indicates the function is stored in the Analysis ToolPak add-in.

Click this button to sort alphabetically.

Using Different Monitor Settings

Total

Each sheet has been designed to fit within the visible width of monitors with a low resolution of 640 x 480. This ensures that you do not need to scroll from left and right to see all the data.

The colours are best suited to monitors capable of 256 colours. On monitors using just 16 colours the greys may look a bit rough! You can switch colours off and on using the button below.

300

300

		C	Colour On		This ma few min any cor	utes on
		Samp	le Colour So	cheme		
	North	South	East	West	Total	
Alan	100	100	100	100	400	
Bob	100	100	100	100	400	
Carol	100	100	100	100	400	

300

300

1200

Analysis ToolPak

What Is The Analysis ToolPak ?

The Analysis ToolPak is an add-in file containing extra functions which are not built in to Excel. The functions cover areas such as Date and Mathematical operations.

The Analysis ToolPak must be added-in to Excel before these functions will be available.

Any formula using these functions without the ToolPak loaded will show the #NAME error.

Analysis ToolPak Check For Analysis ToolPak

Load the Analysis ToolPak

UnLoad the Analysis ToolPak

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Sort Viev	v Category	Location	
Y - Project Dates	Sample	Sample	Example using date calculation.
Y - Timesheet	Sample	Sample	
Y ABS	Mathematical	Built-in	Returns the absolute value of a number
Y AND	Logical	Built-in	Returns TRUE if all its arguments are TRUE
- AVEDEV	Statistical	Built-in	Returns the average of the absolute deviations of data points from their me
Y AVERAGE	Statistical	Built-in	Returns the average of its arguments
Y BIN2DEC	Engineering	Analysis ToolPak	Converts a binary number to decimal
Y CEILING	Mathematical	Built-in	Rounds a number to the nearest integer or to the nearest multiple of signif
Y CELL Y CHAR	Information Text	Built-in Built-in	Returns information about the formatting, location, or contents of a cell
Y CHOOSE	Lookup	Built-in	Returns the character specified by the code number Chooses a value from a list of values
Y CLEAN	Text	Built-in	Removes all nonprintable characters from text
Y CODE	Text	Built-in	Returns a numeric code for the first character in a text string
- COLUMN	Lookup	Built-in	Returns the column number of a reference
- COLUMNS	Lookup	Built-in	Returns the number of columns in a reference
Y COMBIN	Mathematical	Built-in	Returns the number of combinations for a given number of objects
Y CONCATENATE	Text	Built-in	Joins several text items into one text item
Y CONVERT	Engineering	Analysis ToolPak	Converts a number from one measurement system to another
Y CORREL	Statistical	Built-in	Returns the correlation coefficient between two data sets
Y COUNT	Statistical	Built-in	Counts how many numbers are in the list of arguments
Y COUNTA	Statistical	Built-in	Counts how many values are in the list of arguments
Y COUNTBLANK	Information	Built-in	Counts the number of blank cells within a range
Y COUNTIF	Mathematical	Built-in	Counts the number of nonblank cells within a range that meet the given cri
- CUMIPMT	Financial	Analysis ToolPak	Returns the cumulative interest paid between two periods
- CUMPRINC	Financial	Analysis ToolPak	Returns the cumulative principal paid on a loan between two periods
Y DATE	Date	Built-in	Returns the serial number of a particular date
Y DATEVALUE	Date	Built-in	Converts a date in the form of text to a serial number Returns the average of selected database entries
Y DAVERAGE Y DAY	Database	Built-in Built-in	Converts a serial number to a day of the month
Y DAY Y DAYS360	Date	Built-in	Calculates the number of days between two dates based on a 360-day year
Y DB	Financial	Built-in	Returns the depreciation of an asset for a specified period using the fixed-
Y DCOUNT	Database	Built-in	Counts the cells that contain numbers in a database
Y DCOUNTA	Database	Built-in	Counts nonblank cells in a database
- DDB	Financial	Built-in	Returns depreciation of an asset for a specified period using the double-de
Y DEC2BIN	Engineering	Analysis ToolPak	Converts a decimal number to binary
Y DEC2HEX	Engineering	Analysis ToolPak	Converts a decimal number to hexadecimal
Y DELTA	Engineering	Analysis ToolPak	Tests whether two values are equal
Y DGET	Database	Built-in	Extracts from a database a single record that matches the specified criteria
Y DMAX	Database	Built-in	Returns the maximum value from selected database entries
Y DMIN	Database	Built-in	Returns the minimum value from selected database entries
Y DOLLAR	Text	Built-in	Converts a number to text, using currency format
- DPRODUCT	Database	Built-in	Multiplies the values in a particular field of records that match the criteria in
- DSTDEV - DSTDEVP	Database	Built-in	Estimates the standard deviation based on a sample of selected database
Y DSUM	Database Database	Built-in Built-in	Calculates the standard deviation based on the entire population of selecter Adds the numbers in the field column of records in the database that matc
- DVAR	Database	Built-in	Estimates variance based on a sample from selected database entries
- DVARP	Database	Built-in	Calculates variance based on the entire population of selected database entires
Y EDATE	Date	Analysis ToolPak	Returns the serial number of the date that is the indicated number of mont
- EFFECT	Financial	Analysis ToolPak	Returns the effective annual interest rate
Y EOMONTH	Date	Analysis ToolPak	Returns the serial number of the last day of the month before or after a spe
Y ERROR.TYPE	Information	Built-in	Returns a number corresponding to an error type
Y EVEN	Mathematical	Built-in	Rounds a number up to the nearest even integer
Y EXACT	Text	Built-in	Checks to see if two text values are identical
Y FACT	Mathematical	Built-in	Returns the factorial of a number
- FALSE	Logical	Built-in	Returns the logical value FALSE
Y FIND	Text	Built-in	Finds one text value within another (case-sensitive)
Y FIXED	Text	Built-in Built in	Formats a number as text with a fixed number of decimals
Y FLOOR Y FORECAST	Mathematical Statistical	Built-in Built-in	Rounds a number down, toward zero Returns a value along a linear trend
Y FREQUENCY	Statistical	Built-in	Returns a frequency distribution as a vertical array
- FV	Financial	Built-in	Returns the future value of an investment
Y GCD	Mathematical	Analysis ToolPak	Returns the greatest common divisor
Y GESTEP	Engineering	Analysis ToolPak	Tests whether a number is greater than a threshold value
Y GROWTH	Statistical	Built-in	Returns values along an exponential trend
Y HEX2DEC	Engineering	Analysis ToolPak	Converts a hexadecimal number to decimal
Y HLOOKUP	Lookup	Built-in	Looks in the top row of an array and returns the value of the indicated cell
Y HOUR	Date	Built-in	Converts a serial number to an hour
- HYPERLINK	Lookup	Built-in	Creates a shortcut or jump that opens a document stored on a network set
YIF	Logical	Built-in	Specifies a logical test to perform
Y INDEX	Lookup	Built-in	Uses an index to choose a value from a reference or array
Y INDIRECT	Lookup	Built-in	Returns a reference indicated by a text value
Y INFO	Information	Built-in Built in	Returns information about the current operating environment
Y INT Y ISBLANK	Mathematical Information	Built-in Built-in	Rounds a number down to the nearest integer Returns TRUE if the value is blank
Y ISBLANK Y ISERR	Information	Built-in Built-in	Returns TRUE if the value is any error value except #N/A
Y ISERROR	Information	Built-in	Returns TRUE if the value is any error value
. IOLINION	Information	Analysis ToolPak	Returns TRUE if the number is even
Y ISEVEN	Information	Built-in	Returns TRUE if the value is a logical value
Y ISEVEN Y ISLOGICAL		Built-in	Returns TRUE if the value is the #N/A error value
Y ISLOGICAL	Information		
Y ISLOGICAL Y ISNA	Information Information	Built-in	Returns TRUE if the value is not text
Y ISLOGICAL			
Y ISLOGICAL Y ISNA Y ISNONTEXT	Information	Built-in	Returns TRUE if the value is not text

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Sort View	Category	Location	
Y ISTEXT	Information	Built-in	Returns TRUE if the value is text
Y LARGE	Statistical	Built-in	Returns the k-th largest value in a data set
YLCM	Mathematical	Analysis ToolPak	Returns the least common multiple
Y LEFT	Text	Built-in	Returns the leftmost characters from a text value
YLEN	Text	Built-in	Returns the number of characters in a text string
- LINEST	Statistical	Built-in	Returns the parameters of a linear trend
- LOGEST	Statistical	Built-in	Returns the parameters of an exponential trend
Y LOOKUP (vector)	Lookup	Built-in	Looks up values in a vector or array
Y LOWER	Text	Built-in	Converts text to lowercase
Y MATCH		Built-in	
Y MAX	Lookup Statistical	Built-in	Looks up values in a reference or array Returns the maximum value in a list of arguments
- MDETERM	Mathematical	Built-in	Returns the matrix determinant of an array
Y MEDIAN	Statistical	Built-in	Returns the median of the given numbers
Y MID	Text	Built-in	Returns a specific number of characters from a text string starting at the po
Y MIN	Statistical	Built-in	Returns the minimum value in a list of arguments
Y MINUTE	Date	Built-in	Converts a serial number to a minute
Y MINVERSE	Mathematical	Built-in	Returns the matrix inverse of an array
Y MMULT	Mathematical	Built-in	Returns the matrix product of two arrays
Y MOD	Mathematical	Built-in	Returns the remainder from division
Y MODE	Statistical	Built-in	Returns the most common value in a data set
Y MONTH	Date	Built-in	Converts a serial number to a month
Y MROUND	Mathematical	Analysis ToolPak	Returns a number rounded to the desired multiple
Y N	Information	Built-in	Returns a value converted to a number
Y NA	Information	Built-in	Returns the error value #N/A
Y NETWORKDAYS	Date	Analysis ToolPak	Returns the number of whole workdays between two dates
Y NOT	Logical	Built-in	Reverses the logic of its argument
Y NOW	Date	Built-in	Returns the serial number of the current date and time
- NPV	Financial	Built-in	Returns the net present value of an investment based on a series of period
Y ODD	Mathematical	Built-in	Rounds a number up to the nearest odd integer
- OFFSET	Lookup	Built-in	Returns a reference offset from a given reference
YOR	Logical	Built-in	Returns TRUE if any argument is TRUE
- PERCENTILE	Statistical	Built-in	Returns the k-th percentile of values in a range
- PERCENTRANK	Statistical	Built-in	Returns the percentage rank of a value in a data set
Y PERMUT	Statistical	Built-in	Returns the number of permutations for a given number of objects
YPI	Mathematical	Built-in	Returns the value of Pi
Y POWER	Mathematical	Built-in	Returns the result of a number raised to a power
Y PRODUCT	Mathematical	Built-in	Multiplies its arguments
Y PROPER	Text	Built-in	Capitalises the first letter in each word of a text value
- PV	Financial	Built-in	Returns the present value of an investment
Y QUARTILE	Statistical	Built-in	Returns the quartile of a data set
Y QUOTIENT	Mathematical	Analysis ToolPak	Returns the integer portion of a division
Y RAND	Mathematical	Built-in	Returns a random number between 0 and 1
Y RANDBETWEEN	Mathematical	Analysis ToolPak	Returns a random number between the numbers you specify
Y RANK	Statistical	Built-in	Returns the rank of a number in a list of numbers
Y REPLACE	Text	Built-in	Replaces characters within text
Y REPT	Text	Built-in	Repeats text a given number of times
Y RIGHT	Text	Built-in	Returns the rightmost characters from a text value
Y ROMAN	Mathematical	Built-in	Converts an arabic numeral to roman, as text
Y ROUND	Mathematical	Built-in	Rounds a number to a specified number of digits
Y ROUNDDOWN	Mathematical	Built-in	Rounds a number down, toward zero
Y ROUNDUP	Mathematical	Built-in	Rounds a number up, away from zero
- ROW	Lookup	Built-in	Returns the row number of a reference
- ROWS	Lookup	Built-in	Returns the number of rows in a reference
- SEARCH	Text	Built-in	Finds one text value within another (not case-sensitive)
Y SECOND	Date	Built-in	Converts a serial number to a second
Y SIGN	Mathematical	Built-in	Returns the sign of a number
Y SLN	Financial	Built-in	Returns the straight-line depreciation of an asset for one period
Y SMALL	Statistical	Built-in	Returns the k-th smallest value in a data set
Y STDEV	Statistical	Built-in	Estimates standard deviation based on a sample
- STDEVA	Statistical	Built-in	Estimates standard deviation based on a sample, including numbers, text,
Y STDEVP	Statistical	Built-in	Calculates standard deviation based on the entire population
- STDEVPA	Statistical	Built-in	Calculates standard deviation based on the entire population, including nur
Y SUBSTITUTE	Text	Built-in	Substitutes new text for old text in a text string
Y SUBTOTAL	Mathematical	Built-in	Returns a subtotal in a list or database
Y SUM	Mathematical	Built-in	Adds its arguments
- SUM with OFFSET	Lookup	Duille 1	Adde the colle encoified by a minute mitaria
Y SUMIF	Mathematical	Built-in	Adds the cells specified by a given criteria
Y SUMPRODUCT	Mathematical	Built-in	Returns the sum of the products of corresponding array components
Y SYD	Financial	Built-in Built in	Returns the sum-of-years' digits depreciation of an asset for a specified per
Y T V TEVT	Text	Built-in Built in	Converts its arguments to text
Y TEXT	Text	Built-in Built in	Formats a number and converts it to text
	Date	Built-in Built in	Returns the serial number of a particular time
Y TIMEVALUE	Date	Built-in Built in	Converts a time in the form of text to a serial number
Y TODAY	Date	Built-in Built in	Returns the serial number of today's date
Y TRANSPOSE	Lookup	Built-in Built in	Returns the transpose of an array
Y TREND	Statistical	Built-in Built-in	Returns values along a linear trend
Y TRIM	Text	Built-in Built-in	Removes spaces from text
- TRUE	Logical Mathematical	Built-in Built in	Returns the logical value TRUE
Y TRUNC Y TYPE	Mathematical Information	Built-in Built-in	Truncates a number to an integer
Y UPPER	Text	Built-in Built-in	Returns a number indicating the data type of a value Converts text to uppercase
Y VALUE	Text	Built-in	Converts text to uppercase Converts a text argument to a number
Y VAR	Statistical	Built-in	Estimates variance based on a sample
	Situistical		Lounates valuates based on a sample

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Sort	View	Category	Location	
Y VARP		Statistical	Built-in	Calculates variance based on the entire population
- VDB		Financial	Built-in	Returns the depreciation of an asset for a specified or partial period using a
Y VLOOKUP		Lookup	Built-in	Looks in the first column of an array and moves across the row to return the
Y WEEKDAY		Date	Built-in	Converts a serial number to a day of the week
Y WORKDAY		Date	Analysis ToolPak	Returns the serial number of the date before or after a specified number of
Y YEAR		Date	Built-in	Converts a serial number to a year
Y YEARFRAC		Date	Analysis ToolPak	Returns the year fraction representing the number of whole days between s

Notes.

Column A:

I used this to keep track of the my progress. A letter Y indicates that its been finished. This column would have been removed if I had ever completed the project.

Usage:

Click a function name in column B.
 Then click on the View button at the top.

Protection:

Some of sheets may be protected, but there is no password. You may find that the macros reprotect the sheets at some stage. If there are any passwords, try 'rainbow', I use that as a working password during project development.

Analysis ToolPak

Remember that these functions will not work unless the toolpak is loaded. See the Analysis Toolpak sheet for more details. (Does anyone know how to change the colour of the tab for the sheet names?)

End

97 AVERAGEA

	A	В	С	D	Е	F	G	Н	I	J	K	L	М	
1	AVE	ERAG	EA											
2				_								_		
3	Mon Tue Wed Thu Fri Sat Sun Average													
4	Temp C 30 31 32 29 26 28 27 #MACRO? =AVERAGE(D4:J4)													
5	Rain cm 0 0 4 6 3 1 2 =AVERAGE(D5:J5)													
6	-													
7				Mon	Tue		Thu			Sun	Average			
8			Temp C	30		32	29	26	28	27	28.66666667	=AVERAG	```	
9	-		Rain cm	0		0	4	6	3	1	2.33333333333	=AVERAG	6E(D9:J9)	
10	-													
11	-			Mon	Tue		Thu				Average			
12	-		Temp C	30	No	32	29	26	28	27	28.66666667		E(D12:J12)	
13			Rain cm	0	Reading	0	4	6	3	1	2.33333333333	=AVERAG	E(D13:J13)	
14														
15	_	hat Does												
16			on calculate											
17											e average calcu	lation.		
18	l If t	the cell c	ontains zer	o 0, th	e cell will b	be incl	uded	in th	ne av	erage	e calculation.			
19														
20		/ntax					_							
21	=7	VERAG	E(Range1,	Range	2,Range3.	thro	ugh t	o Ra	ange	30)				
22														
23		ormatting												
24	No	o special	formatting	is nee	ded.									

1	73Fu	IntionsofEx	cel.xls at 04	4/20/2015	9	97 MAXA			l	Page 11 of	195
		А	В	С	D	E	F	G	Н	I	J
	1	MAXA									•
	2										

ABS

	A B	С	D	E	F	G	Н
L	ABS				•		
2							
3		Number	Absolute Value				
4		10	10	=ABS(C4)			
5		-10	10	=ABS(C5)			
6		1.25	1.25	=ABS(C6)			
7 8		-1.25	1.25	=ABS(C7)			
o 9	What Doe	s it Do 2					
<u>.0</u>			ne value of a num	her irrespectiv	e of whether i	is positive or	negative
.1				sol, meepeeti			nogativoi
2	Syntax						
.3		IAddress or Νι	ımber)				
.4							
.5	Formattin						
.6	The result	will be shown a	as a number, no s	pecial formatti	ng is needed.		
.7							
.8	Example		a a d la 4 a	u taatia		te timele c ::	
.9			sed by a company		chine which cu	ts timper.	
0			t timber to an exa				
1 2			ere cut and then n ce between the R		and the Actu	al Longth it do	05
23			s cut too long or s				
24	an absolut		s out too long of a	fiort, the meas			500 05
25							
26	Table 1 sh	ows the origina	al calculations.				
27			e for Test 3 is sho	wn as negative	e, which has a	knock on effe	ct
8			r Percentage is c				
9			vood was too long) or short, the p	percentage sho	ould still be exp	pressed
80		as an absolut	e value.				
81		Table 1					
32		Table 1	Deguined	Astual		Гинан	
33		Test Cut	Required	Actual	Difference	Error Percentage	
84		Test 1	Length 120	Length 120	0	0%	
94 15		Test 2	120	90	30	25%	
86		Test 3	120	150	-30	-25%	
7					=D36-E36		
8	Table 2 ab	ows the same	data but using the	e =ABS() functi	on to correct th	ne calculations	3.
	Table 2 Sh		-				
9	Table 2 Sh						
9 0	Table 2 Sh	Table 2					
88 99 00 11	Table 2 Sh	Table 2 Test	Required	Actual	Difference	Error	
89 10 12	Table 2 Sh	Table 2 Test Cut	Length	Length	Difference	Percentage	
89 10 12 13	Table 2 Sh	Table 2 Test Cut Test 1	Length 120	Length 120	0	Percentage 0%	
89 10 12 13 14	Table 2 Sh	Table 2 Test Cut Test 1 Test 2	Length 120 120	Length 120 90	0 30	Percentage 0% 25%	
89 10 12 13	Table 2 Sh	Table 2 Test Cut Test 1	Length 120	Length 120 90 150	0	Percentage 0% 25% 25%	

	A B	C	D	E	F	G	Н	I
1	ADDRESS	S						
2								
3	-			umn number :	2			
4	-			row number :	3			
5	-		Type a	sheet name :	Hello			
7	-		\$B\$3		F4,F3,1,TRU	F)		
8	-		B\$3		F4,F3,2,TRU			
9			\$B3		F4,F3,3,TRU			
10			B3	=ADDRESS(F4,F3,4,TRU	E)		
11				-				
12	-		R3C2		F4,F3,1,FAL			
13	-		R3C[2]		F4,F3,2,FAL			
14 15	-		R[3]C2 R[3]C[2]		F4,F3,3,FAL F4,F3,4,FAL			
15	-		R[J]C[2]		F4,F3,4,FAL	50)		
17	-		Hello.\$B\$3	=ADDRESS(F4.F3.1.TRU	E.F5)		
18	-		Hello.B\$3		F4,F3,2,TRU			
19]		Hello.\$B3	=ADDRESS(F4,F3,3,TRU	E,F5)		
20			Hello.B3	=ADDRESS(F4,F3,4,TRU	E,F5)		
21	· · · · · · · · · · · · · · · · · · ·							
22	What Does				tout bood			
23 24	numbers g			e as a piece of	lexi, based (on a row an		
25				ros rather than	on the actua	lworksheet	r	
26								
27	Syntax							
28		•		er,Absolute,A1		etName)		
29	4			number from 1	to 16384.			
30	The ColNu	mber is fro	m 1 to 256, co	ls A to IV.				
31	The Absolu	ute can be	1,2,3 or 4.					
32	When 1 t	he reference	ce will be in the	e form \$A\$1, c				
33				e form A\$1, on				
34				e form \$A1, on				
35	When 4 t	he reference	ce will be in the	e form A1, neit	her col or row	/ absolute.		
36	The A1orR	1C1 is eith	er TRUE of FA	ALSE.				
37	When TF	RUE the ref	erence will be	in the form A1	, the normal s	style for cel	l addresses	
38	When FA	LSE the re	eference will be	e in the form R	1C1, the alter	native style	e of cell add	ress.
39	The Sheet	Name is a i	piece of text to	be used as th	e worksheet i	name in the	reference	
40				have to exist.				
			····· ·					

	Α	В	С	D	E	F	G	Н	I
1	A٢	1D							
2									
3	1		Items 7	Fo Test	Result				
4			500	800	TRUE	=AND(C4>=10			
5			500	25	FALSE	=AND(C5>=10			
6			25	500	FALSE	=AND(C6>=10			
7	-			12	TRUE	=AND(D7>=1,[07<=52)		
8	-								
9	4 1	What Does							
10						see if they are a			
11						s meet certain c		. .	
12	-					falls between a			
13	-	Normally tr	ie AND() tu	nction would	a be used li	n conjunction wi	th a function st	icn as = IF()	
14	+	Curtor							
15	1	Syntax	t1 Toot2)						
16 17	-	=AND(Tes	here can be	o un to 20 n	occiblo toct	· C			
18	-	Note that t	nere can be	e up to 30 p		.5.			
10	-	Formatting	Y						
20			by itself it	will show T		SE			
20	-	when used	by itself it			-OL.			
22	-	Example 1							
23				shows a lig	st of examir	nation results.			
24						red above avera	ge in all three	exams.	
25						nat each score is			
26						nave scored abo			ams.
27							g		
28		Name	Maths	English	Physics	Passed	1		
29		Alan	80	75	85	TRUE			
30		Bob	50	30	40	FALSE			
31		Carol	60	70	50	FALSE			
32		David	90	85	95	TRUE			
33		Eric	20	30	Absent	FALSE			
34		Fred	40	60	80	FALSE			
35		Gail	10	90	80	FALSE			
36		Harry	80	70	60	TRUE			
37		lan	30	10	20	FALSE			
38		Janice	10	20	30	FALSE			
39		=AN	ID(C38>=A	VERAGE(C	:29:C38),D3	38>=AVERAGE(D29:D38),E38	>=AVERAG	GE(E29:E38))
40						1			
41		Averages	47	54	60				

1 2 3 4	а в AREAS	С	D	E	F	G	Н	1
2 3 4	AREAS					9		
2 3 4								
3 4								8
	Pink	Name	Age		Err:504	=AREAS(PeopleLists)		
		Alan	18					
5		Bob	17					
6		Carol	20					
7		_						
8	Green	Name	Age					
9		David	20					
10		Eric	16					
11		Fred	19					
12								
13	What Does							
14				rmine whe	ther it is a si	ngle block of data, or whe	ther	
15		ple selectior						
16		gle block the						
17		n is designe				iges selected.		
18	The function	in is designe	ed to be use	u in macro	55.			
19 20	Syntax							
20		RangeToTe	et)					-
22		ange fore.	31)					
23	Formatting	r						
24		a will be show	n as a num	ber				
25	ine recuit							
26	Example							
27		ole at the top	of this pag	e shows tv	wo ranges co	ploured pink and green.		
28		, jes have be						
29	The =ARE	AS(PeopleL	ists) gives a	result of 2	2 indicating t	hat there are two separate	e	
30	selections	which form	the PeopleL	ists range				
31								
32	Note							-
33		nultiple rang						-
34						rmal, then the Ctrl key		
35		own before						
36	When a Ra	ange Name	is created it	will consid	der both Pinl	and Green as being one	range.	

					1				1		
	A B C	D	E	F	G	H	J	K	L	М	N
1	AVERAGE										
2									_		
3		Mon	Tue	Wed	Thu	Fri S					
4	Temp	30	31	32	29	26 2		29	=AVERAG		
5	Rain	0	0	0	4	6 3	3 1	2	=AVERAG	E(D5:J5)	
6	-								•		
7		Mon	Tue	Wed		Fri S		Average			
8	Temp	30		32	29	26 2		28.6667	=AVERAG		
9	Rain	0		0	4	6 3	3 1	2.33333	=AVERAG	E(D9:J9)	
10	-		-	NA7 1	1-1				•		
11	Taura	Mon	Tue	Wed	Thu		at Sun			E(D10, 110)	
12	Temp	30	No	32	29	26 2		28.6667		E(D12:J12)	
13	Rain	0	Reading	0	4	6 3	3 1	2.33333	=AVERAG	E(D13:J13)	
14	What Deer		. .								
15	What Does This function			ovoro	ao fra	om o li	et of pu	mbore			
16 17									ho avorado	calculation.	
18									ge calculati		
19		unan	5 2010 0, 11				ueu m	ine avera	ye calculati	011.	
20	Syntax										
21	=AVERAG	F(Ran	gel Range	2 Rar	nde3	throu	iah to F	(Sande30)			
22			ger, i tulige	, i (ai	igeo.		ign to i	(ungeoo)			
23	Formatting	u a									
24	No special		ttina is nee	eded.							
25											
26	Note										
27		e the a	average of	cells \	which	conta	in text	or blanks ι	use =SUM()	to get the total	and
28	then divide								V	-	
29	1	-				÷					
30	1	Mon	Tue	Wed	Thu	Fri S	at Sun	Average	1		
31	Temp	30	No	32	29	26 2		24.5714		1:J31)/COUNTA	(D31:J31)
32	Rain	0	Reading	0	4	6 3	3 1	2	=SUM(D3	2:J32)/COUNTA	(D32:J32)
33]										-
34]	Mon	Tue	Wed	Thu			Average			
35	Temp	30		32	29	26 2		28.6667		5: <mark>J35)/COUNT</mark> A	
36	Rain	0		0	4	6 3	3 1	2.33333	=SUM(D3	6: <mark>J36)/COUNT</mark> A	(D36:J36)
37									-		
38											
39	Further Us	~~~									

BIN2DEC

	A B	С	D	E	F	G	Н	I
1	BIN2DEC							
2								
3]	Binary Number	Decimal Equivalent					
4		0	0	=BIN2DEC	· · ·			
5		1	1	=BIN2DEC	· · ·			
6		10	2	=BIN2DEC				
7		11	3	=BIN2DEC	· · ·			
8	_	111111111	511	=BIN2DEC				
9		1111111111	-1	=BIN2DEC	· · ·			
10		1111111110	-2	=BIN2DEC	· · · ·			
11	_	1111111101	-3	=BIN2DEC				
12	_	100000000		=BIN2DEC				
13	-	11111111111	Err:502	=BIN2DEC	C(C13)			
14								
15	What Does			-				
16			ary number to decim					
17	Negative n	umbers are repre	esented using two's-c	complement	notation.			
18								
19	Syntax							
20	-	(BinaryNumber)						
21	The binary	number has a lir	nit of ten characters.					
22								
23	Formatting							
24	No special	formatting is nee	eded.					

1 CEILING 2 3 4 2.1 3 5 2.1 3 6 2.1 3 1.5 2 -CEILING(C5,1) 20 30 -CEILING(C6,2) 25 30 -CEILING(C7,30) 25 30 -CEILING(C8,30) 9 20 60 10 What Does It Do ? This function rounds a number up to the nearest multiple specified by the user. 13 -CEILING(ValueToRound,MultipleToRoundUpTo) 16 The ValueToRound can be a cell address or a calculation. 177 -CEILING(ValueToRound,MultipleToRoundUpTo) 18 -CEILING (CalueToRound and partments. 19 No special formatting is needed. 20 -CEILING (Daving table was used by a estate agent renting holiday apartments. 17 The following table was used by a estate agent renting holiday apartments. 18 -CEILING (Daving table was used by a estate agent renting holiday apartments. 20 -CEILING (Daving table was used by a estate agent renting holiday apartments. 21 -CEILING (Daving table was used by a estate agent renting holiday apartments. </th <th></th>	
2 3 4 2.1 3 5 2.1 3 1.5 2 =CEILING(C4,1) 5 1.9 2 6 1.9 2 7 20 30 25 30 =CEILING(C6,1) 20 40 60 25 30 =CEILING(C8,30) 9 40 60 10 11 What Does It Do ? 11 This function rounds a number up to the nearest multiple specified by the user. 13 3 14 Syntax =CEILING(ValueToRound,MultipleToRoundUpTo) 16 The ValueToRound can be a cell address or a calculation. 17 B 19 No special formatting is needed. 20 20 21 Example 1 22 The following table was used by a estate agent renting holiday apartments. 17 The properties being rented are only available on a weekly basis. 24 When the customer supplies the number of days required in the property the =CEILING() function rounds it up by a multiple of 7 to calculate the number of full week	
3 Number Raised Up 2.1 3 =CEILING(C4,1) 5 1.5 2 6 1.9 2 7 20 30 20 30 =CEILING(C6,1) 20 30 =CEILING(C3,30) 25 30 =CEILING(C8,30) 9 40 60 11 What Does It Do ? 12 This function rounds a number up to the nearest multiple specified by the user. 13 =CEILING(ValueToRound,MultipleToRoundUpTo) 16 The ValueToRound can be a cell address or a calculation. 17 # 18 Formatting 19 No special formatting is needed. 20 20 21 Example 1 22 The following table was used by a estate agent renting holiday apartments. 13 The properties being rented are only available on a weekly basis. 23 When the customer supplies the number of days required in the property the =CEILING() 24 When the customer supplies the number of fays required in the property the =CEILING() 26 Example of 7 to calculate the number o	
4 2.1 3 =CEILING(C4,1) 5 1.5 2 =CEILING(C5,1) 6 20 30 =CEILING(C6,1) 7 20 30 =CEILING(C8,30) 9 40 60 =CEILING(C8,30) 9 40 60 =CEILING(C8,30) 10 11 What Does It Do ? This function rounds a number up to the nearest multiple specified by the user. 13 14 Syntax =CEILING(ValueToRound,MultipleToRoundUpTo) 16 The ValueToRound can be a cell address or a calculation. 17 18 Formatting 19 No special formatting is needed.	
5 1.5 2 =CEILING(C5,1) 6 1.9 2 =CEILING(C6,1) 7 20 30 =CEILING(C6,1) 7 20 30 =CEILING(C6,30) 9 25 30 =CEILING(C8,30) 9 40 60 =CEILING(C9,30) 10 10 What Does It Do ? 11 This function rounds a number up to the nearest multiple specified by the user. 13 3 14 Syntax 15 =CEILING(ValueToRound,MultipleToRoundUpTo) 16 The ValueToRound can be a cell address or a calculation. 17 18 19 No special formatting is needed. 20 20 21 Example 1 22 The following table was used by a estate agent renting holiday apartments. 23 The properties being rented are only available on a weekly basis. 24 When the customer supplies the number of days required in the property the =CEILING() 25 function rounds it up by a multiple of 7 to calculate the number of full weeks to be billed.	
6 1.9 2 =CEILING(C6,1) 7 20 30 =CEILING(C7,30) 25 30 =CEILING(C8,30) 9 40 60 =CEILING(C9,30) 10 11	
7 20 30 =CEILING(C7,30) 9 25 30 =CEILING(C8,30) 9 40 60 =CEILING(C9,30) 10 11 This function rounds a number up to the nearest multiple specified by the user. 13 14 Syntax =CEILING(ValueToRound,MultipleToRoundUpTo) 16 The ValueToRound can be a cell address or a calculation. 17 Formatting 18 Formatting 20 21 22 The following table was used by a estate agent renting holiday apartments. 23 The properties being rented are only available on a weekly basis. 24 When the customer supplies the number of days required in the property the =CEILING() function rounds it up by a multiple of 7 to calculate the number of full weeks to be billed.	
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9 40 60 =CEILING(C9,30) 10 11 What Does It Do ? 12 This function rounds a number up to the nearest multiple specified by the user. 13 14 Syntax 15 =CEILING(ValueToRound,MultipleToRoundUpTo) 16 The ValueToRound can be a cell address or a calculation. 17 18 19 No special formatting is needed. 20 21 21 Example 1 22 The following table was used by a estate agent renting holiday apartments. 23 The properties being rented are only available on a weekly basis. 24 When the customer supplies the number of days required in the property the =CEILING() function rounds it up by a multiple of 7 to calculate the number of full weeks to be billed.	
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12 This function rounds a number up to the nearest multiple specified by the user. 13 14 14 Syntax 15 =CEILING(ValueToRound,MultipleToRoundUpTo) 16 The ValueToRound can be a cell address or a calculation. 17 18 19 No special formatting is needed. 20 21 21 Example 1 22 The following table was used by a estate agent renting holiday apartments. 23 The properties being rented are only available on a weekly basis. 24 When the customer supplies the number of days required in the property the =CEILING() 25 function rounds it up by a multiple of 7 to calculate the number of full weeks to be billed.	
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17 18 19 19 20 21 22 21 22 21 22 23 24 25 26	
18 Formatting 19 No special formatting is needed. 20 20 21 Example 1 22 The following table was used by a estate agent renting holiday apartments. 23 The properties being rented are only available on a weekly basis. 24 When the customer supplies the number of days required in the property the =CEILING() 25 function rounds it up by a multiple of 7 to calculate the number of full weeks to be billed.	
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20 21 22 23 23 24 24 25 26	
21 Example 1 22 The following table was used by a estate agent renting holiday apartments. 23 The properties being rented are only available on a weekly basis. 24 When the customer supplies the number of days required in the property the =CEILING() 25 function rounds it up by a multiple of 7 to calculate the number of full weeks to be billed.	
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 When the customer supplies the number of days required in the property the =CEILING() function rounds it up by a multiple of 7 to calculate the number of full weeks to be billed. 	
25 function rounds it up by a multiple of 7 to calculate the number of full weeks to be billed. 26	
26	
27 Days Deguired Days To	
ZY Days Required Be Billed 28 Customer 1 3 7 =CEILING(D28,7)	
29 Customer 2 4 7 =CEILING(D29,7)	
30 Customer 3 10 14 =CEILING(D30,7)	
31	
32	
33 Example 2	
34 The following table was used by a builders merchant delivering products to a construction site.	
35 The merchant needs to hire trucks to move each product.	
36 Each product needs a particular type of truck of a fixed capacity.	
3738Table 1 calculates the number of trucks required by dividing the Units To Be Moved by	
38 Table 1 calculates the number of flucks required by dividing the Onits To be moved by 39 the Capacity of the truck.	
40 This results of the division are not whole numbers, and the builder cannot hire just part	
41 of a truck.	
42	
43 Table 1	
44 Units To Truck Trucks	
Item Be Moved Capacity Needed	
45 Bricks 1000 300 3.33 =D45/E45	
46 Wood 5000 600 8.33 =D46/E46	
47 Cement 2000 350 5.71 =D47/E47 48	
48 49 Table 2 shows how the =CEILING() function has been used to round up the result of	
50 the division to a whole number, and thus given the exact amount of trucks needed.	
51	
52 Table 2	
Linits To Truck Trucks	
53 Item Be Moved Capacity Needed	
54 Bricks 1000 300 4 =CEILING(D54/E54,1)	

	Α	В	С	D	E	F	G	Н
55			Wood	5000	600	9	=CEILING(D55/	/E55,1)
56			Cement	2000	350	6	=CEILING(D56	/E56,1)
57		•					-	
58								
59		Example 3						
60		The following	ng tables wer	e used by a sho	pkeeper to calcı	ulate the selling	price of an item	•
61		The shopke	eeper buys pr	oducts by the bo	DX.			
62		The cost of	the item is ca	alculated by divid	ding the Box Co	st by the Box Q	Juantity.	
63		The shopke	eeper always	wants the price	to end in 99 per	ice.		
64								
65		Table 1 sho	ows how just a	a normal divisior	n results in varyi	ng Item Costs.		
66]							
67] .	Table 1						
68		Item	Box Qnty	Box Cost	Cost Per Item			
69		Plugs	11	£20	1.81818	=D69/C69		
70		Sockets	7	£18.25	2.60714	=D70/C70		
71		Junctions	5	£28.10	5.62000	=D71/C71		
72		Adapters	16	£28	1.75000	=D72/C72		
73								
13						I		
74								
74 75	-			-CEILING() func			e Item Cost to	
74 75 76	-		ows how the = in 99 pence.				e Item Cost to	
74 75 76 77		always end					e Item Cost to	
74 75 76 77 78			in 99 pence.	ŭ	tion has been u	sed to raise the	e Item Cost to	
74 75 76 77 78 79		always end Table 2 Item		Box Cost	tion has been us Cost Per Item		e Item Cost to	
74 75 76 77 78 79 80		always end Table 2 Item Plugs	in 99 pence. In Box 11	Box Cost £20	tion has been us Cost Per Item 1.81818	sed to raise the Raised Cost 1.99]	
74 75 76 77 78 79 80 81		always end Table 2 Item Plugs Sockets	in 99 pence. In Box 11 7	Box Cost £20 £18.25	tion has been us Cost Per Item 1.81818 2.60714	sed to raise the Raised Cost 1.99 2.99		
74 75 76 77 78 79 80 81 82		always end Table 2 Item Plugs Sockets Junctions	in 99 pence. In Box 11 7 5	Box Cost £20 £18.25 £28.10	tion has been us Cost Per Item 1.81818 2.60714 5.62000	sed to raise the Raised Cost 1.99 2.99 5.99		
74 75 76 77 78 79 80 81 81 82 83		always end Table 2 Item Plugs Sockets	in 99 pence. In Box 11 7	Box Cost £20 £18.25	tion has been us Cost Per Item 1.81818 2.60714	sed to raise the Raised Cost 1.99 2.99 5.99 1.99		
74 75 76 77 78 79 80 81 82 83 83 84		always end Table 2 Item Plugs Sockets Junctions	in 99 pence. In Box 11 7 5	Box Cost £20 £18.25 £28.10	tion has been us Cost Per Item 1.81818 2.60714 5.62000	sed to raise the Raised Cost 1.99 2.99 5.99 1.99		3,1),0.99)
74 75 76 77 78 79 80 81 81 82 83 83 84 85		always end Table 2 Item Plugs Sockets Junctions Adapters	in 99 pence. In Box 11 7 5 16	Box Cost £20 £18.25 £28.10	tion has been us Cost Per Item 1.81818 2.60714 5.62000	sed to raise the Raised Cost 1.99 2.99 5.99 1.99		3,1),0.99)
74 75 76 77 78 79 80 81 82 83 83 84 85 86		always end Table 2 Item Plugs Sockets Junctions Adapters Explanatio	in 99 pence. In Box 11 7 5 16	Box Cost £20 £18.25 £28.10	tion has been us Cost Per Item 1.81818 2.60714 5.62000 1.75000	Raised Cost 1.99 2.99 5.99 1.99 =INT(E83)+CI	EILING(MOD(E8	3,1),0.99)
74 75 76 77 80 80 81 82 83 83 84 85 86 87		always end Table 2 Item Plugs Sockets Junctions Adapters Explanatio =INT(E83)	in 99 pence. In Box 11 7 5 16	Box Cost £20 £18.25 £28.10	tion has been us Cost Per Item 1.81818 2.60714 5.62000 1.75000 Calculates the i	Raised Cost 1.99 2.99 5.99 1.99 =INT(E83)+CI	EILING(MOD(E8	3,1),0.99)
74 75 76 77 78 79 80 81 82 83 83 84 85 86		always end Table 2 Item Plugs Sockets Junctions Adapters Explanatio =INT(E83) =MOD(E83	in 99 pence. In Box 11 7 5 16	Box Cost £20 £18.25 £28.10 £28	tion has been us Cost Per Item 1.81818 2.60714 5.62000 1.75000	Raised Cost 1.99 2.99 5.99 1.99 =INT(E83)+CI nteger part of t decimal part of	EILING(MOD(E8	3,1),0.99)

	el.xls at 04/20/2015						
A B CELL	С	D	E F	G	Н		I
	This is the cell and contents to te	st. 17.50%	-				
		31. 11.3070					
	The cell addres		=CELL("address",D3)				
	The column number		=CELL("col",D3)				
	The row number The actual contents of the ce		=CELL("row",D3) =CELL("contents",D3)				
	The type of entry in the ce						
	Shown as b for blank, l for text, v for value	Je.	=CELL("type",D3)				
	The alignment of the ce Shown as ' for left, ^ for centre, " for rig	ell.	-CELL ("profix" D2)				
	Nothing is shown for numeric entrie		=CELL("prefix",D3)				
	The width of the ce	ell. 12	=CELL("width",D3)				
	The number format fo the ce		=CELL("format",D3)				
	(See the table shown below Formatted for braces () on positive value	26	-				
	1 for yes, 0 for n		=CELL("parentheses",D3)			
	Formatted for coloured negative	es.	=CELL("color",D3)				
	1 for yes, 0 for n The type of cell protection	10.					
	The type of cell protection 1 for a locked, 0 for unlocked		=CELL("protect",D3)				
	The filename containing the ce		dib/files/source/2015/2015	418/caoda	ngnghe/ca	odar	ngnghe_
			=CELL("filename",D3)				
	es It Do ? tion examines a cell and displays information	about the center	nto position and formatting				
	uon examines a cen and displays information	i about the conten	nis, position and ionnating				
Syntax							
=CELL("	TypeOfInfoRequired",CellToTest)				•		
	OfInfoRequired is a text entry which must be	e surrounded with	quotes " ".				
The Type		surrounded with	quotes " ".				
The Type Formatti		surrounded with	quotes " ".				
The Type Formatti No specia	ng al formatting is needed.	surrounded with	quotes " ".				
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The Type Formatti No specia	ng al formatting is needed. sed to show the formatting of the cell. Mumeric Format General 0 #,##0 0.00 #,##0.00 \$#,##0.]{(\$#,##0) \$#,##0.00];(\$#,##0.00) \$#,##0.00];(\$#,##0.00) \$#,##0.00];(\$#,##0.00) \$0 \$0,00E+00 # //?? or #????? m/d/yy or m/d/yy h:mm or mm/dd/yy. d-mmm-yy or dd-mmm-yy	Code G F0 ,0 F2 ,2 C0 C2 C2 C2 S2 G D4 D1	quotes " ".				
The Type Formatti No specia	ng al formatting is needed. sed to show the formatting of the cell. Numeric Format General 0 #,##0 0.00 #,##0.00 \$#,##0.00 \$#,##0.)(\$#,##0) \$#,##0.00 \$#,#0.00 \$#,##0.00 \$#,##0.00 \$#,##0.00 \$#,##0.00 \$#,##0.00 \$#,##0.00 \$#,#	Code G F0 ,0 F2 ,2 C0 C2 P0 P2 S2 G D4 D1 D2	quotes " ".				
The Type Formatti No specia	ng al formatting is needed. sed to show the formatting of the cell. Mumeric Format General 0 #.##0 0.00 #.##0.00 \$#,##0.1;(\$#,##0) \$#,##0.0;[\$#,##0,0] \$#,##0.0;[\$Ed](\$#,##0.00) \$#,##0.0;[\$Ed](\$#,##0.00) \$#,##0.00;[\$Ed](\$#,##0.00) \$#,##0,#0;[\$Ed](\$#,##0,#0,#0,	Code G F0 ,0 F2 ,2 C0 C0- C2- P0 P2 S2 G D4 D1 D2 D3	quotes " ".				
The Type Formatti No specia	ng al formatting is needed. sed to show the formatting of the cell. Numeric Format General 0 #,##0 0.00 #,##0.00 \$#,##0.00 \$#,##0.)(\$#,##0) \$#,##0.00 \$#,#0.00 \$#,##0.00 \$#,##0.00 \$#,##0.00 \$#,##0.00 \$#,##0.00 \$#,##0.00 \$#,#	Code G F0 ,0 F2 ,2 C0 C2 P0 P2 S2 G D4 D1 D2	quotes " ".				
The Type Formatti No specia	ng al formatting is needed. sed to show the formatting of the cell. Numeric Format General 0 #,##0 0.00 #,##0.0 \$#,##0.0 \$#,##0.0 \$#,##0.0 \$#,##0.0 \$#,##0.0 \$#,##0.0 \$#,##0.0 \$#,##0.0 \$#,##0.00 \$#,#0.00 \$#,#0.00 \$#,#0.00 \$#,#0.00 \$#,#0.00 \$#,#0.00 \$#,#0.00 \$#,#0.00	Code G F0 ,0 F2 ,2 C0 C0- C2 C2- P0 P2 S2 G G D4 D1 D2 D3 D5 D7 D6	quotes " ".				
The Type Formatti No specia	ng al formatting is needed. sed to show the formatting of the cell. Mumeric Format General 0 #.##0 0.00 #.##0.00 \$#.##0.](\$#.##0) \$#.##0.](\$#.##0) \$#.##0.00];(\$#.##0.00) \$#.##0.10];(\$#.##0.10);(\$#.##0.00) \$#.##0.10];(\$#.##0.10);(\$#.##0.10);(\$#.##0.10);(\$#.##0.10);(\$#.##0.10);(\$#.##0.10);(\$#.##0.10);(\$#.#10.10);(\$#.#10.10);(\$#.#10.10);(\$#.#10.10);(\$#.#10.10);(\$#.#10.10);(\$#	Code G F0 0 F2 2 2 C0 C0- C2- P0 P2 S2 G P4 D1 D1 D2 D3 D5 D7 D6 D9	quotes " ".				
The Type Formatti No specia	ng al formatting is needed. sed to show the formatting of the cell. Numeric Format General 0 #,##0 0.00 #,##0.0 \$#,##0.0 \$#,##0.0 \$#,##0.0 \$#,##0.0 \$#,##0.0 \$#,##0.0 \$#,##0.0 \$#,##0.0 \$#,##0.00 \$#,#0.00 \$#,#0.00 \$#,#0.00 \$#,#0.00 \$#,#0.00 \$#,#0.00 \$#,#0.00 \$#,#0.00	Code G F0 ,0 F2 ,2 C0 C0- C2 C2- P0 P2 S2 G G D4 D1 D2 D3 D5 D7 D6	quotes " ".				
The Type Formatti No specia	ng al formatting is needed. sed to show the formatting of the cell. Mumeric Format General 0 #.##0 0.00 #.##0.00 \$#,##0.0](\$#,##0) \$#,##0.0](\$#,##0) \$#,##0.0](\$#,##0.00) \$#,##0.0](\$#,##0.00) \$#,##0.0](\$#,##0.00) \$#,##0.0](\$#,##0.00) \$#,##0.0](\$#,##0.00) \$#,##0.00](\$#,##0.00)(\$#,##0.00) \$#,##0.00](\$#,##0.00)(Code G F0 0 F2 2 2 C0 C0- C2- P0 P2 S2 G P4 D1 D1 D2 D3 D5 D7 D6 D9	quotes " ".				
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The Type Formatti No specia Codes us	ng al formatting is needed. sed to show the formatting of the cell. Mumeric Format General 0 #.##0 0.00 #.##0.00 \$#,##0.400 \$#,##0.400 \$#,##0.400 \$#,##0.400 \$#,##0.400 \$#,##0.400 \$#,#1,#0,#000 <td>Code G F0 0 F2 ,2 C0 C2 C2 C2 C2 S2 G D4 D1 D2 D3 D5 D7 D6 D9 D8 part of a formula version</td> <td></td> <td>_</td> <td></td> <td></td> <td></td>	Code G F0 0 F2 ,2 C0 C2 C2 C2 C2 S2 G D4 D1 D2 D3 D5 D7 D6 D9 D8 part of a formula version		_			
The Type Formatti No specia Codes us Codes us <u>Example</u> The follow	ng al formatting is needed. sed to show the formatting of the cell. Numeric Format General 0 #,##0.00 #,##0.00 \$#,#0.00 \$#,#0.00	Code G F0 0 F2 2 C0 C2- P0 C2- P2 S2 G D4 D1 D2 D3 D5 D7 D6 D9 D8 Sart of a formula w	which extracts the filename				

	Α	B C	DE	FG	HI	JK	LM	N O	ΡQ	R S	ΤU	VW	Х
1	<u>CH</u>	AR											
2	_												
3	-		ANS		Charact	er							
4 5	-			65 66	A B		=CHAR =CHAR						
5 6	-			169			=CHAR						
7	-			109	•		-CHAR	(80)					
8	-	What Do	bes It D	0?									
9	-				normal n	umber to	o the cha	racter it r	epresen	t in the A	NSI		
10	1			ed by Wi					•				
11													
12		Syntax											
13	-	=CHAR	•	,									
14	-	The Nu	mber mi	ust be be	tween 1	and 255							
15	-	Correctt	ina										
16 17	-	Formatt		o o choro	etor with	no snor	cial forma	tting					
17 18	-	116 1630		c a chald		no spec		ıy.					
19	-	Example	е										
20	1			a list of a	all 255 nu	imbers a	and the cl	naracters	s they rep	oresent.			
21	1		•				nay not d				l charac	ters,	
22	1				as a smal		-			•			
23] .												
24		1	26	51 <mark>3</mark>	76 L	101 <mark>e</mark>	126~	151 😯	176 💎	201 😯	226 😯	251 😯	
25		2 3	27	52 4	77 M	102 f	127 🗌	152 😯	177 🗘	202 🗘	227 😯	252 🗘	
26			28	535	78 N	103 g	128 😯	153 😯	178 😯	203 😯	228 🗘	253 😯	
27	-	4	29	54 <mark>6</mark>	79 O	104 h 105 i	129 😯	154 😯	179 🗘	204 🗘	229 ? 230 ?	254 🤣	
28 29	-	5 6	30 31	55 7 56 8	80 P 81 Q	105 106 j	130 😯 131 😯	155 😯 156 😯	180 😯 181 😯	205 ? 206 ?	230	255 😯	
29 30	-	7	32	579	82 R	100 J	132 🗘	157 😯	182 🗘	207 🗘	232 🗘		
31	-	8	33 !	58:	83 S	108	133 😯	158 😯	183 😯	208 💎	233 💎		
32		9	34 "	59;	84 T	109 m	134 😯	159 💎	184 😯	209 💎	234 😯		
			-		-								
33		10	35 #	60 <	85 <mark>U</mark>	110 <mark>n</mark>	135 😯	160 💎	185 😯	210 😯	235 😯		
34		11	36 <mark>\$</mark>	61 =	86 <mark>V</mark>	111 <mark>0</mark>	136 😯	161 💎	186 😯	211 😯	236 😯		
35		12	37 <mark>%</mark>		87 <mark>W</mark>	112 <mark>p</mark>	137 😯	162 💎	187 😯	212 😯			
36		13	38 <mark>&</mark>	63 ?	88 X	113 <mark>q</mark>	138 😯	163 😯	188 💎	213 😯	238 😯		
37		14	39'	64 @	89 Y	114 r	139 😯	164 😯	189 😯	214 😯	239 😯		
38		15	40 (65 A	90 Z	115 s	140 😯		190 😯	215 🗘	240 😯		
39		16 17	41) 42*	66 B	91 [92 \	116 t	141 😯 142 😯	166 😯 167 😯	191 😯 192 😯	216 😯	241 😯 242 😯		
40 41		18	42 ^	67 C 68 D	92	117 u 118 v	142 🗸	167 🗸	192	217	242		
41 42		19	43 -	69 E	93	110 V	143	169 😯	193	210 🗸	243		
43		20	45 -	70 F	95	120 x	145 😯	170 😯	195 😯	220 💎	245 💎		
44		21	46.	71 G	96	121 y	146 😯	171 💎	196 💎	221 🗘	246 😯		
45	1	22	47/	72 H	97 <mark>a</mark>	122 z	147 😯	172 💎	197 🗘	222 🗘	247 💎		
46	1	23	48 <mark>0</mark>	731	98 <mark>b</mark>	123 {	148 😯	173 😯	198 😯	223 😯	248 😯		
47]	24	49 1	74 <mark>J</mark>	99 <mark>c</mark>	124	149 😯	174 😯	199 😯	224 😯	249 😯		
48		25	50 <mark>2</mark>	75 <mark>K</mark>	100 <mark>d</mark>	125 }	150 😯	175 😯	200 😯	225 😯	250 😯		
49													
		Note											
50 51	-	Number	<u>00 '</u>										

CHOOSE

	A B	С	D	E	F	G	Н	I	J
1	CHOOSE								
2				-					
3		Index Value	Result						
4		1	Alan	=CHOOSE	E(C4,"Alan",	,"Bob","Car	ol")		
5		3	Carol	=CHOOSE	E(C5,"Alan",	,"Bob","Car	ol")		
6		2	Bob	=CHOOSE	E(C6,"Alan",	,"Bob","Car	ol")		
7		3	18%	=CHOOSE	E(C7,10%,1	5%,18%)			
8		1	10%		E <mark>(C</mark> 8,10%,1				
9		2	15%	=CHOOSE	E <mark>(C</mark> 9,10%,1	5%,18%)			
10									
11									
12	What Does								
13	This function	on picks fro	m a list of o	ptions base	d upon an I	ndex value	given to by	y the user.	
14									
15	Syntax								
16	=CHOOSE	E(UserValue	e, Item1, Ite	m2, Item3 t	hrough to It	em29)			
17									
18	Formatting								
19	No special	formatting i	s required.						
20									
21	Example								
22	The followi	•			medals for	athletes ta	king part in	a race.	
23	The Time for								
24				the finishing		f each athle	ete.		
25				ne correct m					
26				out any posi					
27	the error of	#VALUE to	o appear, di	ue to the fac	t the =CHC	OSE() has	only three	items in it.	
28									
29	Name	Time	Position	Medal					
30	Alan	1:30	2	Silver				er","Bronze"),"u	
31	Bob	1:15	4	unplaced	=IF(D31<=3,0	CHOOSE(D31	.,"Gold","Silve	er","Bronze"),"u	nplaced")
32	Carol	2:45	1	Gold	=IF(D32<=3,0	CHOOSE(D32	2,"Gold","Silve	er","Bronze"),"u	nplaced")
33	David	1:05	5	unplaced	=IF(D33<=3,0	CHOOSE(D33	3,"Gold","Silve	er","Bronze"),"u	nplaced")
34	Eric	1:20	3	Bronze		CHOOSE(D34	l,"Gold","Silve	er","Bronze"),"u	nplaced")
35			=RANK(C	34,C30:C34	.)				

	A B	С	D	E	F	G	Н	Ι	
1	CLEAN								
2		_		-					
3		Dirty Text	Clean Text						
4		Hello	Hello	=CLEAN(0					
5		Hello	Hello	=CLEAN(0					
6		Hello	Hello	=CLEAN(0	C6)				
7		-		-					
8	What Does	s It Do?							
9		on removes a							
10	These nonprinting characters are often found in data which has been imported								
11	from other systems such as database imports from mainframes.								
12									
13	Syntax								
14	=CLEAN(T	extToBeClea	ined)						
15									
16	Formatting								
17	No special	formatting is	needed. The	result will s	show as no	rmal text.			

CODE

	A B	С	D	E	F	G	Н			J	K
1 (CODE										
2											
3		Letter	ANSI Code								
4		A	65	=CODE(C4)							
5		В	66	=CODE(C5)							
6		С	67	=CODE(C6)							
7		а	97	=CODE(C7)							
8		b	98	=CODE(C8)							
9		С	99	=CODE(C9)							
10		Alan	65	=CODE(C10)							
11		Bob	66	=CODE(C11)							
12		Carol	67	=CODE(C12)							
13											
14	What Doe										
15		ion shows the	e ANSI value	e of a single cha	racter, or	the first of	character i	in a pie	се		
16	of text.										
17			t is used by	Windows to ide	ntity each	keyboard	d characte	er by us	ing		
18	a unique i										
19	There are	255 characte	ers in the AN	ISI set.							
20	C										
21	Syntax										
22	=CODE(iext)									
23	Cormottir										
24 25	Formattir		a poodod th	e result will be s	shown oc	o numbo	r botwoon	1 and	255		
25	NU Specia	a iomatuny is	s neeueu, in	e result will be :	shown as	a number	between	1 anu .	255.		
27	-										
	Evamnia										
	Example See the e	xample for El		,							
28		xample for FI	REQUENCY								_
28 29	See the e				151 —	176 °	201 É (226 â	251 (ĩ	_
28 29 30	See the e	26 51 3	76 L	101 e 126 ~	151 — 152 ~	176 ° 177 ±		226 â 227 ã	251 (252 (_
28 29 30 31	See the e	26 51 3 27 52 4	76 L 77 M	101 e 126 ~ 102 f 127 🗌	152 ~	177 ±	202 Ê 2	227 <mark>ã</mark>	252 ü	i 🗌	_
28 29 30 31 32	See the e	26 51 3 27 52 4 28 53 5	76 L 77 M 78 N	101 e 126 ~ 102 f 127 □ 103 g 128 €	152 [~] 153 ™	177 ± 178 ²	202 Ê 2 203 Ë 2	227 <mark>ã</mark> 228 <mark>ä</mark>	252 (253 (i V	_
28 29 30 31	See the e	26 51 3 27 52 4 28 53 5 29 54 6	76 L 77 M 78 N 79 O	101 e 126 ~ 102 f 127 □ 103 g 128 € 104 h 129 □	152 ~ 153 ™ 154 š	177 ± 178 ² 179 ³	202 Ê 2 203 Ë 2 204 Ì 2	227 ã 228 ä 229 å	252 (253 (254 (і 7 О	_
28 29 30 31 32 33 34	See the e	26 51 3 27 52 4 28 53 5 29 54 6	76 L 77 M 78 N 79 O 80 P	101 e 126 ~ 102 f 127 □ 103 g 128 € 104 h 129 □ 105 i 130 ,	152 [~] 153 ™ 154 š 155 >	177 ± 178 ² 179 ³ 180 [′]	202 Ê 2 203 Ë 2 204 Ì 2 205 Í 2	227 <mark>ã</mark> 228 ä 229 å 230 æ	252 (253 (і 7 О	_
28 29 30 31 32 33	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7	76 L 77 M 78 N 79 O	101 e 126 ~ 102 f 127 □ 103 g 128 € 104 h 129 □ 105 i 130 , 106 j 131 f	152 ~ 153 ™ 154 š	177 ± 178 ² 179 ³	202 Ê 2 203 Ë 2 204 Ì 2 205 Í 2 206 Î 2	227 ã 228 ä 229 å	252 (253 (254 (і 7 О	_
28 29 30 31 32 33 34 35	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7 31 56 8	76 L 77 M 78 N 79 O 80 P 81 Q	101 e 126 ~ 102 f 127 □ 103 g 128 € 104 h 129 □ 105 i 130 , 106 j 131 f	152 [~] 153 ™ 154 š 155 > 156 œ 157 □	177 ± 178 ² 179 ³ 180 ΄ 181 μ	202 Ê 2 203 Ë 2 204 Ì 2 205 Í 2 206 Î 2 207 Ï 2	227 ã 228 ä 229 å 230 æ 231 ç	252 (253 (254 (і 7 О	_
28 29 30 31 32 33 34 35 36	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7 31 56 8 32 57 9	76 L 77 M 78 N 79 O 80 P 81 Q 82 R	101 e 126 ~ 102 f 127 □ 103 g 128 € 104 h 129 □ 105 i 130 , 106 j 131 f 107 k 132 "	152 [~] 153 ™ 154 š 155 > 156 œ 157 □	177 ± 178 ² 179 ³ 180 ΄ 181 μ 182 ¶	202 Ê 2 203 Ë 2 204 Ì 2 205 Í 2 206 Î 2 207 Ï 2 208 Đ 2	227 ã 228 ä 229 å 230 æ 231 ç 232 è	252 (253 (254 (і 7 О	_
28 29 30 31 32 33 34 35 36 37	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7 31 56 8 32 57 9 33 58 1	76 L 77 M 78 N 79 O 80 P 81 Q 82 R 83 S 84 T	101 e 126 ~ 102 f 127 □ 103 g 128 € 104 h 129 □ 105 i 130 , 106 j 131 f 107 k 132 , 108 l 133 .	152 [~] 153 ™ 154 š 155 → 156 œ 157 □ 158 ž	177 ± 178 ² 179 ³ 180 ⁻ 181 μ 182 ¶ 183 ·	202 Ê 2 203 Ë 2 204 Ì 2 205 Í 2 206 Î 2 207 Ï 2 208 Đ 2 209 Ñ 2	227 ã 228 ä 229 å 230 æ 231 ç 232 è 233 é	252 (253 (254 (і 7 О	
28 29 30 31 32 33 34 35 36 37 38 39 40	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7 31 56 8 32 57 9 33 58 53 34 59 59	76 L 77 M 78 N 79 O 80 P 81 Q 82 R 83 S 84 T	101 e 126 ~ 102 f 127 □ 103 g 128 € 104 h 129 □ 105 i 130 , 106 j 131 f 107 k 132 , 108 I 133 . 109 m 134 † 110 n 135 ‡ 111 o 136 ^	 152 ~ 153 ™ 154 š 155 > 156 œ 157 □ 158 ž 159 Ÿ 160 161 i 	177 ± 178 ² 179 ³ 180 ⁷ 181 µ 182 ¶ 183 · 184 ,	202 Ê 2 203 Ë 2 204 Ì 2 205 Í 2 206 Î 2 207 Ï 2 208 Đ 2 209 Ñ 2 210 Ò 2 211 Ó 2	227 ã 228 ä 229 å 230 æ 231 ç 232 è 233 é 233 é	252 (253 (254 (і 7 О	
28 29 30 31 32 33 34 35 36 37 38 39 40 41	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7 31 56 8 32 57 9 33 58 5 34 59 5 35 # 60 5 36 \$ 61 = 37 % 62 >	76 L 77 M 78 N 79 O 80 P 81 Q 82 R 83 S 84 T 85 U	101 e 126 ~ 102 f 127 □ 103 g 128 € 104 h 129 □ 105 i 130 , 106 j 131 f 107 k 132 , 108 l 133 109 m 134 † 110 n 135 ‡ 111 o 136 ~	152 ~ 153 ™ 154 š 155 > 156 œ 157 □ 158 ž 159 Ÿ 160 i 161 i 162 ¢	177 ± 178 ² 179 ³ 180 ⁷ 181 µ 182 ¶ 183 [.] 184 [.] 185 ¹ 186 ⁰ 187 »	202 Ê 2 203 Ë 2 204 Ì 2 205 Í 2 206 Î 2 207 Ï 2 208 Đ 2 209 Ñ 2 210 Ò 2 211 Ó 2 212 Ô 2	227 ã 228 ä 229 å 230 æ 231 ç 232 è 233 é 233 é 234 ê 235 ë 236 ì 237 í	252 (253 (254 (і 7 О	
28 29 30 31 32 33 34 35 36 37 38 39 40 41 42	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7 31 56 8 32 57 9 33 58 58 34 59 5 35 # 60 36 \$ 61 37 % 62 38 \$ 63	76 L 77 M 78 N 79 O 80 P 81 Q 82 R 83 S 84 T 85 U 86 V 87 W 88 X	101 e 126 ~ 102 f 127 □ 103 g 128 € 104 h 129 □ 105 i 130 , 106 j 131 f 107 k 132 , 108 l 133 109 m 134 † 110 n 135 ‡ 111 o 136 û 112 p 137 % 113 q 138 Š	152 ~ 153 ™ 154 š 155 > 156 œ 157 □ 158 ž 159 Ÿ 160 i 161 i 162 ¢ 163 £	177 ± 178 ² 179 ³ 180 ⁷ 181 µ 182 ¶ 183 [.] 184 [,] 185 ¹ 186 ⁰ 187 » 188 ¹ / ₄	202 Ê 2 203 Ë 2 204 Ì 2 205 Í 2 206 Î 2 208 Đ 2 209 Ñ 2 210 Ô 2 210 Ô 2 210 Ô 2 211 Ô 2	227 ã 228 ä 229 å 230 æ 231 ç 232 è 233 é 233 é 234 ê 235 ë 236 ì	252 (253 (254 (і 7 О	
28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7 31 56 8 32 57 9 33 58 5 34 59 5 35 # 60 36 \$ 61 37 % 62 38 & 63 ? 39 64 62	76 L 77 M 78 N 79 O 80 P 81 Q 82 R 83 S 84 T 85 U 86 V 87 W 88 X 88 X 9 89 Y	101 e 126 ~ 102 f 127 □ 103 g 128 € 104 h 129 □ 105 i 130 , 106 j 131 f 107 k 132 , 108 □ 133 109 m 134 † 110 n 135 ‡ 111 0 136 ~ 112 p 137 % 113 q 138 Š 114 r 139 <	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	177 ± 178 ² 179 ³ 180 ⁷ 181 μ 182 ¶ 183 [.] 184 , 185 ¹ 186 ⁰ 187 » 188 ¹ / ₄ 189 ¹ / ₂	202 Ê 2 203 Ë 2 204 Ì 2 205 Í 2 206 Î 2 207 Ï 2 208 Đ 2 209 Ñ 2 210 Ò 2 211 Ó 2 213 Õ 2 214 Ö 2	227 ã 228 ä 229 å 230 æ 231 ç 232 è 233 é 233 é 233 é 235 è 236 ì 237 í 238 î	252 (253 (254 (і 7 О	
28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7 31 56 8 32 57 9 33 1 58 34 " 59 35 # 60 36 \$ 61 37 % 62 38 & 63 39 64 @ 40 (65	76 L 77 M 78 N 79 O 80 P 81 Q 82 R 83 S 84 T 85 U 86 V 87 W 88 X 88 X 89 Y 90 Z	101 e 126 ~ 102 f 127 □ 103 g 128 € 104 h 129 □ 105 i 130 , 106 j 131 f 107 k 132 , 108 □ 133 109 m 134 † 110 n 135 ‡ 111 o 136 ~ 112 p 137 % 113 q 138 Š 114 r 139 < 115 s 140 @	152 ~ 153 ™ 154 š 155 ~ 156 œ 157 □ 158 ž 159 ° 160 161 161 i 162 ¢ 163 £ 164 ¤ 165 ¥	177 ± 178 2 179 3 180 ' 181 µ 182 ¶ 183 · 184 , 185 1 186 ° 187 > 188 ¼ 189 ¼ 189 ¼ 190 ¾	202 Ê 2 203 Ë 2 204 Ì 2 205 Í 2 206 Î 2 207 Ï 2 208 Đ 2 209 Ñ 2 210 Ô 2 211 Ô 2 213 Õ 2 214 Õ 2 215 × 2	227 ã 228 ä 229 å 230 æ 231 ç 232 è 233 ê 233 ê 233 î 237 î 238 î 239 ï 240 ð	252 (253 (254 (і 7 О	
28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7 31 56 8 32 57 9 33 1 58 34 " 59 35 # 60 36 \$ 61 37 % 62 38 & 63 39 ' 64 40 (65 41) 66 B	76 L 77 M 78 N 79 O 80 P 81 Q 82 R 83 S 84 T 85 U 86 V 87 W 88 X 88 X 90 Z 91 [101 e 126 102 f 127 103 g 128 104 h 129 105 i 130 105 i 130 106 j 131 107 k 132 108 l 133 109 m 134 110 n 135 111 o 136 112 p 137 113 q 138 114 r 139 115 s 140	152 ~ 153 ™ 154 š 155 ~ 156 œ 157 □ 158 ž 159 Ÿ 160 161 162 ¢ 163 £ 164 ¤ 165 ¥ 166 ¦	$\begin{array}{c} 177 \pm \\ 178 \\ 2 \\ 179 \\ 3 \\ 180 \\ 181 \\ 182 \\ 1 \\ 182 \\ 1 \\ 183 \\ 1 \\ 184 \\ 1 \\ 185 \\ 1 \\ 186 \\ 1 \\ 187 \\ 1 \\ 188 \\ 1 \\ 188 \\ 1 \\ 189 \\ 1 \\ 2 \\ 190 \\ 3 \\ 191 \\ 2 \end{array}$	202 Ê 2 203 Ë 2 204 Ì 2 205 Í 2 206 Î 2 207 Ï 2 209 Ñ 2 210 Ô 2 211 Ô 2 213 Õ 2 214 Õ 2 216 Ø 2	227 ã 228 ä 229 å 230 æ 231 ç 232 è 233 ê 233 ê 233 î 237 î 238 î 239 ï 240 ð 241 ñ	252 (253 (254 (і 7 О	
28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7 31 56 8 32 57 9 33 58 5 34 59 5 35 # 60 36 \$ 61 = 37 % 62 > 38 & 63 ? 39 64 @ 40 65 A 41 66 B 42 67 C	76 L 77 M 78 N 79 O 80 P 81 Q 82 R 83 S 84 T 85 U 86 V 87 W 88 X 90 Z 91 [92 \	101 e 126 102 f 127 103 g 128 104 h 129 105 i 130 105 i 130 106 j 131 107 k 132 108 l 133 109 m 134 110 n 135 111 o 136 112 p 137 113 q 138 114 r 139 115 s 140 116 t 141 117 u 142		$\begin{array}{c} 177 \pm \\ 178 \\ 2 \\ 179 \\ 3 \\ 180 \\ 181 \\ 182 \\ 1 \\ 183 \\ 183 \\ 183 \\ 184 \\ 185 \\ 1 \\ 186 \\ 187 \\ 3 \\ 188 \\ 14 \\ 189 \\ 14 \\ 189 \\ 14 \\ 189 \\ 14 \\ 190 \\ 34 \\ 191 \\ 2 \\ 192 \\ A \end{array}$	202 Ê 2 203 Ë 2 204 Ì 2 205 Í 2 206 Î 2 207 Ï 2 208 Đ 2 210 Ô 2 210 Ô 2 211 Ô 2 213 Õ 2 214 Õ 2 216 Ø 2 217 Ù 2	227 ã 228 ä 229 å 230 æ 232 è 233 é 233 é 233 î 237 î 238 î 239 ï 239 ï 240 ð 241 ñ 242 ò	252 (253 (254 (і 7 О	
28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7 31 56 8 32 57 9 33 58 5 34 59 5 35 # 60 36 \$ 61 = 37 % 62 > 38 % 63 ? 39 ' 64 @ 40 (65 A 41) 66 B 42 * 67 C 43 + 68 D	76 L 77 M 78 N 79 O 80 P 81 Q 82 R 83 S 84 T 85 U 86 V 87 W 88 X 88 X 90 Z 91 [92 \ 92 \ 93]	101 e 126 102 f 127 103 g 128 104 h 129 105 i 130 105 i 130 106 j 131 107 k 132 108 l 133 109 m 134 110 n 135 111 o 136 112 p 137 113 q 138 114 r 139 115 s 140 116 t 141 117 u 142 118 v 143		$\begin{array}{c} 177 \pm \\ 178 \\ 2 \\ 179 \\ 3 \\ 180 \\ 181 \\ \mu \\ 182 \\ 1 \\ 183 \\ 183 \\ 183 \\ 184 \\ 185 \\ 1 \\ 186 \\ 1 \\ 186 \\ 1 \\ 187 \\ 3 \\ 188 \\ 14 \\ 189 \\ 14 \\ 189 \\ 14 \\ 190 \\ 34 \\ 191 \\ 2 \\ 192 \\ A \\ 193 \\ A \end{array}$	202 Ê 2 203 Ë 2 204 Ì 2 205 Í 2 206 Î 2 207 Ï 2 208 Đ 2 210 Ô 2 210 Ô 2 211 Ô 2 213 Õ 2 215 × 2 216 Ø 2 217 Ù 2 218 Ú 2	227 ã 228 ä 229 å 2230 æ 231 ç 232 è 233 é 234 ê 235 ë 236 ì 237 í 238 î 239 ï 239 ï 240 ð 241 ñ 242 ò 243 ó	252 (253 (254 (і 7 О	
28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7 31 56 8 32 57 9 33 58 5 34 59 5 35 # 60 36 \$ 61 = 37 % 62 > 38 % 63 ? 39 64 @ 40 65 A 41 66 B 42 67 C 43 68 D 44 68 D 44 69 E	76 L 77 M 78 N 79 O 80 P 81 Q 82 R 83 S 84 T 85 U 86 V 87 W 88 X 90 Z 91 [92 \ 93] 94 ^	101 e 126 102 f 127 103 g 128 104 h 129 105 i 130 105 i 130 106 j 131 107 k 132 108 l 133 109 m 134 110 n 135 111 o 136 112 p 137 113 q 138 114 r 139 115 s 140 116 t 141 117 u 142 118 v 143		$\begin{array}{c} 177 \pm \\ 178 \\ 2 \\ 179 \\ 3 \\ 180 \\ 181 \\ 182 \\ 1 \\ 183 \\ 1 \\ 183 \\ 1 \\ 183 \\ 1 \\ 184 \\ 1 \\ 185 \\ 1 \\ 185 \\ 1 \\ 186 \\ 0 \\ 187 \\ 3 \\ 188 \\ 1 \\ 188 \\ 1 \\ 189 \\ 1 \\ 2 \\ 190 \\ 3 \\ 191 \\ 2 \\ 192 \\ A \\ 193 \\ A \\ 194 \\ A \end{array}$	202 Ê 2 203 Ë 2 204 Î 2 205 Í 2 206 Î 2 207 Ï 2 208 Đ 2 209 Ñ 2 210 Ò 2 211 Ó 2 213 Õ 2 214 Ö 2 216 Ø 2 218 Ú 2 219 Û 2	227 ã 228 ä 229 å 2230 æ 231 ç 232 è 233 é 234 ê 235 ë 236 ì 237 í 238 î 239 ï 240 ð 241 ñ 242 ò 244 ô	252 (253 (254 (і 7 О	
28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7 31 56 8 32 57 9 33 58 5 34 59 5 35 # 60 36 \$ 61 = 37 % 62 > 38 % 63 ? 39 64 @ 40 65 A 41 66 B 42 67 C 43 68 D 44 69 E 45 70 F	76 L 77 M 78 N 79 O 80 P 81 Q 82 R 83 S 84 T 85 U 86 V 87 W 88 X 90 Z 91 [92 \ 93] 94 ^ 95 _	101 e 126 102 f 127 103 g 128 104 h 129 105 i 130 105 i 130 106 j 131 107 k 132 108 l 133 109 m 134 110 n 135 111 o 136 112 p 137 113 q 138 114 r 139 115 s 140 116 t 141 117 u 142 118 v 143 119 w 144	152 ~ 153 ™ 154 Š 155 > 156 œ 157 □ 158 ž 159 ° 160 161 162 c 163 £ 164 ¤ 165 ¥ 166 ¦ 167 § 168 ¨ 169 © 170 a	$\begin{array}{c} 177 \pm \\ 178 \\ 2 \\ 179 \\ 3 \\ 180 \\ 181 \\ \mu \\ 182 \\ 1 \\ 183 \\ 1 \\ 184 \\ 1 \\ 185 \\ 1 \\ 186 \\ 1 \\ 187 \\ 1 \\ 186 \\ 1 \\ 187 \\ 1 \\ 188 \\ 1 \\ 1 \\ 188 \\ 1 \\ 1 \\ 1 \\ 1$	202 Ê 2 203 Ë 2 204 Î 2 205 Í 2 206 Î 2 207 Ï 2 208 Đ 2 209 Ñ 2 210 Ò 2 211 Ó 2 213 Õ 2 215 × 2 216 Ø 2 218 Ú 2 209 Q 2	227 ã 228 ä 229 å 2230 æ 231 ç 232 è 233 é 234 ê 235 ë 236 ì 237 í 238 î 239 ï 239 ï 240 ð 241 ñ 242 ò 244 ô 244 ô	252 (253 (254 (і 7 О	
28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7 31 56 8 32 57 9 33 58 5 34 59 5 35 # 60 36 \$ 61 = 37 % 62 > 38 % 63 ? 39 64 6 6 40 65 A 4 41 66 B 4 42 * 67 C 43 + 68 D 44 , 69 E 45 70 F 4 45 70 F 46 71 6	76 L 77 M 78 N 79 O 80 P 81 Q 82 R 83 S 84 T 85 U 86 V 87 W 88 X 88 X 90 Z 91 [92 \ 93] 94 ^ 95 _ 96 `	101 e 126 102 f 127 103 g 128 104 h 129 105 i 130 105 i 130 106 j 131 107 k 132 108 l 133 109 m 134 110 n 135 111 o 136 112 p 137 113 q 138 114 r 139 115 s 140 116 t 141 117 u 142 118 v 143 119 w 144 120 x 145	152 ~ 153 ™ 154 $š$ 155 > 156 œ 157 □ 158 $ž$ 159 Υ 160 □ 161 i 162 ¢ 163 £ 164 ¤ 165 ¥ 166 ¦ 167 § 168 ° 169 © 170 ° 171 «	$\begin{array}{c} 177 \pm \\ 178 \\ 2 \\ 179 \\ 3 \\ 180 \\ 181 \\ \mu \\ 182 \\ 1 \\ 183 \\ 185 \\ 1 \\ 186 \\ 187 \\ 188 \\ 187 \\ 188 \\ 140 \\ 189 \\ 122 \\ 190 \\ 34 \\ 191 \\ 2 \\ 190 \\ 191 \\ 2 \\ 192 \\ 193 \\ 194 \\ 193 \\ 194 \\ 195 \\ 196 \\ $	202 Ê 2 203 Ë 2 204 Ì 2 205 Í 2 206 Î 2 207 Ï 2 208 Đ 2 209 Ñ 2 210 Ò 2 211 Ó 2 213 Õ 2 215 × 2 216 Ø 2 218 Ú 2 220 Ü 2 211 Ó 2 214 Ö 2 216 Ø 2 219 Ũ 2 2200 Ü 2 2200 Ü 2 221 Ý 2	227 ã 228 ä 229 å 220 å 230 č 231 ç 232 è 233 ć 234 ĉ 235 č 236 ì 237 í 238 î 239 ï 239 ï 240 ô 241 ñ 242 ò 243 ó 244 ô 244 ô 244 õ	252 (253 (254 (і 7 О	
28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7 31 56 8 32 57 9 33 58 5 34 59 5 35 # 60 36 \$ 61 = 37 % 62 > 38 % 63 ? 39 64 6 6 40 65 A 4 41 66 B 4 42 * 67 C 43 + 68 D 44 , 69 E 45 - 70 F 46 71 6 71 47 / 72 H	76 L 77 M 78 N 79 O 80 P 81 Q 82 R 83 S 84 T 85 U 86 V 87 W 88 X 89 Y 90 Z 91 [92 \ 93] 94 ^ 95 _ 96 \ 97 a	101 e 126 102 f 127 103 g 128 € 104 h 129 1 105 i 130 , 105 i 130 , 106 j 131 f 107 k 132 , 108 l 133 , 109 m 134 † 110 n 135 ‡ 111 o 136 ° 112 p 137 % 113 q 138 Š 114 r 139 € 115 s 140 € 116 t 141 □ 117 u 142 Z 118 v 143 □ 120 x 145 1 122 y 146 1	152 ~ 153 ™ 154 Š 155 > 156 œ 157 □ 158 ž 159 ° 160 □ 161 i 162 ¢ 163 £ 164 ¤ 165 ¥ 166 ¦ 167 § 168 ° 169 © 170 ° 171 ~ 172 ¬	$\begin{array}{c} 177 \pm \\ 178 \\ 2 \\ 179 \\ 3 \\ 180 \\ 181 \\ \mu \\ 182 \\ 1 \\ 183 \\ 185 \\ 1 \\ 186 \\ 187 \\ 188 \\ 187 \\ 188 \\ 14 \\ 189 \\ 12 \\ 190 \\ 34 \\ 191 \\ 2 \\ 190 \\ 191 \\ 2 \\ 192 \\ 192 \\ 192 \\ 193 \\ 4 \\ 194 \\ 195 \\ 5 \\ 196 \\ 196 \\ 197 \\ $	202 Ê 2 203 Ë 2 204 Ì 2 205 Í 2 206 Î 2 207 Ï 2 208 Đ 2 200 Ñ 2 210 Ô 2 211 Ô 2 213 Õ 2 214 Õ 2 215 × 2 216 Ø 2 218 Ú 2 219 Ũ 2 220 Ŭ 2 221 Ý 2	227 ã 228 ä 229 å 223 č 233 č 234 č 235 č 236 ì 237 í 238 î 239 ï 239 ï 239 ï 239 ï 239 ï 240 õ 241 ñ 242 õ 244 õ	252 (253 (254 (і 7 О	
28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7 31 56 8 32 57 9 33 1 58 37 34 59 53 34 59 53 34 60 57 35 $#$ 60 57 36 $$6$ 61 $=$ 37 $%$ 62 $>$ 38 $& 63$ $?$ 39 40 (65 61 42 $*$ 67 C 43 $+$ 68 D 44 $, 69$ E 45 $ 70$ F 44 $, 71$ C 44 $, 72$ H 48 0 73	76 L 77 M 78 N 79 O 80 P 81 Q 82 R 83 S 84 T 85 U 86 V 87 W 88 X 90 Z 91 [92 \ 93] 94 ^ 95 - 96 97 a 98 b	101 e 126 102 f 127 103 g 128 104 h 129 105 i 130 105 i 130 106 j 131 107 k 132 108 l 133 109 m 134 110 n 135 111 o 136 112 p 137 113 q 138 114 r 139 115 s 140 116 t 141 117 u 142 118 v 143 119 w 144 122 z 147 122 z 147	152 ~ 153 ™ 154 š 155 > 156 œ 157 □ 158 ž 159 ° 160 □ 161 i 162 ¢ 163 £ 164 ¤ 165 ¥ 166 ¦ 167 § 168 ¨ 169 © 170 ° 171 ~ 172 ¬ 173 -	$\begin{array}{c} 177 \pm \\ 178 \\ 2 \\ 179 \\ 3 \\ 180 \\ 181 \\ \mu \\ 182 \\ 1 \\ 183 \\ 1 \\ 184 \\ 183 \\ 1 \\ 186 \\ 1 \\ 186 \\ 1 \\ 187 \\ 3 \\ 188 \\ 1 \\ 188 \\ 1 \\ 189 \\ 1 \\ 190 \\ 3 \\ 191 \\ 2 \\ 190 \\ 191 \\ 2 \\ 190 \\ 191 \\ 2 \\ 190 \\ 191 \\ 2 \\ 190 \\ 191 \\ 2 \\ 190 \\ 191 \\ 2 \\ 190 \\ 191 \\ 2 \\ 190 \\ 191 \\ 2 \\ 190 \\ 100$	202 Ê 2 203 Ë 2 204 Ì 2 205 Í 2 206 Î 2 207 Ï 2 208 D 2 210 O 2 211 Ó 2 213 Õ 2 214 Ö 2 215 × 2 216 Ø 2 219 Û 2 220 Ü 2 2212 Ý 2 223 ß 2	227 ã 228 ä 229 å 2230 č 2331 ç 2332 č 2333 č 2334 č 2335 č 2340 č 235 č 236 č 237 í 238 č 239 č 239 č 239 č 230 č 231 č 232 č 233 č 2340 č 2410 č 2424 č 2445 č 2446 č 2447 č 2448 č	252 (253 (254 (і 7 О	
28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7 31 56 8 32 57 9 33 1 58 37 34 59 53 40 35 $#$ 60 57 34 $*$ 59 $;$ 35 $#$ 60 53 37 $%$ 62 $>$ 38 $& 63$ $?$ 39 40 (65 64 41 66 67 70 42 $*$ 67 70 44 69 E 44 69 E 45 -70 71 62 73 14 48 0 73 148 0 73 148	76 L 77 M 78 N 79 O 80 P 81 Q 82 R 83 S 84 T 85 U 86 V 87 W 88 X 90 Z 91 [92 \ 93] 94 ^ 95 = 96 \ 97 a 98 b 99 c	101 e 126 102 f 127 103 g 128 € 104 h 129 1 105 i 130 , 105 i 130 , 106 j 131 f 107 k 132 , 108 l 133 , 109 m 134 † 110 n 135 ‡ 111 o 136 ° 112 p 137 % 113 q 138 Š 114 r 139 € 115 s 140 € 116 t 141 □ 117 u 142 Z 118 v 143 □ 120 x 145 1 122 y 146 1	152 ~ 153 ™ 155 > 156 œ 157 □ 158 ž 159 ° 160 □ 161 i 162 ¢ 163 £ 164 □ 165 ¥ 166 ¦ 167 § 168 ¨ 167 § 168 ° 167 § 168 ° 170 ° 171 ~ 173 - 174 ®	$\begin{array}{c} 177 \ \pm \\ 178 \ 2 \\ 179 \ 3 \\ 180 \ ' \\ 181 \ \mu \\ 182 \ \ \\ 182 \ \ \\ 183 \ \cdot \\ 184 \ , \\ 185 \ 1 \\ 186 \ ^{0} \\ 187 \ > \\ 188 \ \frac{1}{4} \\ 189 \ \frac{1}{2} \\ 190 \ \frac{3}{4} \\ 191 \ \frac{1}{6} \\ 192 \ \hat{A} \\ 194 \ \hat{A} \\ 195 \ \tilde{A} \\ 196 \ \tilde{A} \\ 196 \ \tilde{A} \\ 197 \ \hat{A} \\ 198 \ \mathcal{F} \\ 198 \ \mathcal{F} \\ 199 \ \mathcal{C} \end{array}$	202 Ê 2 203 Ë 2 204 Ì 2 206 Î 2 207 Ï 2 208 D 2 209 Ñ 2 210 O 2 211 Ó 2 213 Õ 2 214 Ö 2 215 × 2 216 Ø 2 219 Û 2 220 Ü 2 2213 Ó 2 2214 Ö 2 220 Ü 2 2219 Q 2 222 P 2 223 G 2 224 à 2	227 ã 228 ä 229 å 223 č 233 č 234 č 235 č 236 ì 237 í 238 î 239 ï 239 ï 239 ï 239 ï 239 ï 240 õ 241 ñ 242 õ 244 õ	252 (253 (254 (і 7 О	
28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52	See the e	26 51 3 27 52 4 28 53 5 29 54 6 30 55 7 31 56 8 32 57 9 33 1 58 37 34 59 53 34 59 53 34 60 57 35 $#$ 60 57 36 $$6$ 61 $=$ 37 $%$ 62 $>$ 38 $& 63$ $?$ 39 40 (65 61 42 $*$ 67 C 43 $+$ 68 D 44 $, 69$ E 45 $ 70$ F 44 $, 71$ C 44 $, 72$ H 48 0 73	76 L 77 M 78 N 79 O 80 P 81 Q 82 R 83 S 84 T 85 U 86 V 87 W 88 X 90 Z 91 [92 \ 93] 94 ^ 95 = 96 \ 97 a 98 b 99 c	101 e 126 102 f 127 103 g 128 104 h 129 105 i 130 105 i 130 106 j 131 107 k 132 108 l 133 109 m 134 110 n 135 111 o 136 112 p 137 113 q 138 114 r 139 115 s 140 116 t 141 117 u 142 118 v 143 119 w 144 122 z 147 122 z 147	152 ~ 153 ™ 154 š 155 > 156 œ 157 □ 158 ž 159 ° 160 □ 161 i 162 ¢ 163 £ 164 ¤ 165 ¥ 166 ¦ 167 § 168 ¨ 169 © 170 ° 171 ~ 172 ¬ 173 -	$\begin{array}{c} 177 \pm \\ 178 \\ 2 \\ 179 \\ 3 \\ 180 \\ 181 \\ \mu \\ 182 \\ 1 \\ 183 \\ 1 \\ 184 \\ 183 \\ 1 \\ 186 \\ 1 \\ 186 \\ 1 \\ 187 \\ 3 \\ 188 \\ 1 \\ 188 \\ 1 \\ 189 \\ 1 \\ 190 \\ 3 \\ 191 \\ 2 \\ 192 \\ 1 \\ 192 \\ 1 \\ 192 \\ 1 \\ 193 \\ 1 \\ 194 \\ 1 \\ 195 \\ 1 \\ 196 \\ 1 \\ 196 \\ 1 \\ 196 \\ 1 \\ 198 \\ 4 \\ 198 \\ 108$	202 Ê 2 203 Ë 2 204 Ì 2 206 Î 2 207 Ï 2 208 D 2 209 Ñ 2 210 O 2 211 Ó 2 213 Õ 2 214 Ö 2 215 × 2 216 Ø 2 219 Ú 2 220 Ø 2 221 Ý 2 220 Ø 2 2213 Ø 2 222 P 2 223 G 2 224 à 2	227 ã 228 ä 229 å 2230 č 2331 ç 2332 č 2333 č 2334 č 2335 č 2340 č 235 č 236 č 237 í 238 č 239 č 239 č 239 č 230 č 231 č 232 č 233 č 2340 č 2410 č 2424 č 2445 č 2446 č 2447 č 2448 č	252 (253 (254 (і 7 О	

	A B	С	D	E	F	G
1	COMBIN	_			-	
2						
3	-	Pool Of Items	Items In A Group	Possible Groups	1	
4		4	2	6	=COMBIN(C4,D4)
5		4	3	4	=COMBIN(C5,D5	
6		26	2	325	=COMBIN(C6,D6	
7				•		, ,
8	What Does					
9			ighest number of com	binations available	based upon	
10		nber of items.				
11	The interna	al order of the com	bination does not matt	er, so AB is the sa	me as BA.	
12						
13	Syntax					
14	=COMBIN	l(HowManyItems,G	sroupSize)			
15	Formattin	~				
16 17	Formatting	y formatting is requi	rod			
18	NU Special	ionnaung is requi	ieu.			
10	-					
20	Example 1	L				
21			oossible number of pai	rs of letters availab	le	
22		ur characters ABC				
23						
24		Total Characters	Group Size	Combinations		
25		4	2	6	=COMBIN(C25,D2	5)
26]				-	
27		The proof !	The four letters	ABCD		
28			Pair 1	AB		
29			Pair 2	AC		
30	_		Pair 3	AD		
31			Pair 4	BC		
32			Pair 5	BD		
33	-		Pair 6	CD		
34	E					
35	Example 2		n a aclaur achama far	a nour office		
36			n a colour scheme for llours to work with, but		in any schomo	
37 38		colours schemes		can only use three	e in any scheme.	
30	110W many	COlouis Schemes (can be created ?			
40		Available Colours	Colours Per Scheme	Totals Schemes	1	
40	1	5	3	10	=COMBIN(C41,D4	1)
42	1	Ŭ		10		-,
43	1	The colours				
44	1	Red				
45	1	Green				
46]	Blue				
47]	Yellow				
48		Black				
49]		-			
50		Scheme 1	Scheme 2	Scheme 3	Scheme 4	Scheme 5
51		Red	Red	Red	Red	Red
52		Green	Green	Green	Blue	Blue
53		Blue	Yellow	Black	Yellow	Black
54		Cabarra C	Cale and Z	Calcare C	Cabarra C	Osha an 10
55	1	Scheme 6	Scheme 7	Scheme 8	Scheme 9	Scheme 10
F ^	1					
56	-	Green	Green	Green	Blue	??????
56 57 58	-	Blue	<mark>Green</mark> Blue Black	Green Yellow Black	Yellow Black	

	A B	С	D	E	F	G	Н	I
1	CONCAT	ENATE						
2		_						
3]	Name 1	Name 2	Concatenated Text				
4		Alan	Jones		=CONCATENAT			
5		Bob	Williams		=CONCATENAT			
6	_	Carol	Davies		=CONCATENAT			
7	_	Alan	Jones		=CONCATENAT			
8	-	Bob	Williams		=CONCATENAT			
9	-	Carol	Davies	Davies, Carol	=CONCATENAT	E(D9,", ",C9	9)	
10								
11	What Doe				-			
12		on joins sep	arate piece	s of text into one item	1.			
13	Curretour							
14	Syntax		v+1 Tov+0 T					
15 16		pieces of te		ext3Text30)				
10		pieces of te	ext can be j	ollieu.				
18	Formattin	a						
19			s needed t	he result will be shov	vn as normal text			
20		Ionnatting	S neeueu, i					
20	Note							
22		hieve the s	ame result	by using the & opera	tor			
23				by doing the a opera				
24	-	Name 1	Name 2	Concatenated Text				
25	1	Alan	Jones		=C25&D25			
26	1	Bob	Williams	BobWilliams				
27	1	Carol	Davies	CarolDavies				
28	1	Alan	Jones		=C28&" "&D28			
29	1	Bob	Williams	Williams, Bob	=D29&", "&C29			
30	1	Carol	Davies	Davies, Carol	=D30&", "&C30			

CONVERT Converting Converting Converted Amount 2 3 $\overline{10}$			С	D	E	F		
2 Amount Converting Converting Amount = CONVERT(C4, D4, E4) 1 in cm 2.54 1 in cm 2.54 1 yd m 0.9048 2 in yd m 0.9144 2 in yd m 0.9144 2 in yd m 0.9144 2 in day 365.25 = CONVERT(C8, D8, E8) 1 in gc 300 = CONVERT(C10.1010.E10) 1 in sec 30 = CONVERT(C10.1010.E10) 1 in a different type of unit, such as Inches to Centimetres. in a different type of unit, such as Inches to Centimetres. 1 Syntax = = = 2 Syntax = = = = 3 Syntax = </th <th>1</th> <th></th> <th></th> <th>D</th> <th></th> <th>F</th> <th>G</th> <th><u> </u></th>	1			D		F	G	<u> </u>
3 Amount To Convert From Converting To Amount To Amount Converting To Convert From Converting To Amount Converting Convertion Converting Convertion Convertion 4 1 in cm 2.54 = CONVERT(C6, D6, E6) 7 1 yd m 0.9144 = CONVERT(C6, D6, E6) 7 1 yd m 0.9144 = CONVERT(C6, D6, E6) 1 yd mm 90 = CONVERT(C10, D10, E10) 0.5 1 day hr 24 = CONVERT(C10, D10, E10) 0.5 1 day hr 24 = CONVERT(C10, D10, E10) 0.5 1 day hr 24 = CONVERT(C10, D10, E10) = CONVERT(C10, D10, E10) 1 boto to 2 mm sec 30 = CONVERT(C11, D11, E11) 13 this function converts a value measure in one type of unit, to the same value expressed in a different type of unit, such as inches to Centimetres. Spritter 14 This function The following table was used by an Import / Exporting company to convert the weight and size of packages from old style UK measuring system to European system. 27 Example The follo		CONVERT						
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			Amount	Converting	Converting	Converted		
S 1 It m 0.3043 =CONVERT(C5, D5, E5) 1 yd m 0.9144 =CONVERT(C6, D6, E6) 1 yr day 365, 25 =CONVERT(C3, D8, E8) 1 day hr 24 =CONVERT(C10, D10, E10) 1 0.5 mn sec 30 =CONVERT(C11, D11, E11) 1 wat Does it Do ? This function converts a value measure in one type of unit, to the same value expressed in a different type of unit, such as inches to Centimetres. 1 Syntax =CONVERT(C11, D11, E11) =CONVERT(C11, D11, E11) 1 Pounds Social State =CONVERT(C11, D11, E11) 1 This function converts a value measure in one type of unit, to the same value expressed in a different type of unit, such as inches to Centimetres. 1 Pounds Social State Social State 1 Pounds Social State Social State 1 Pounds Social State Social State 2 Pounds Social State Social State 2 Pounds Social State Social State 2 Pounds <t< td=""><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	3							
6 1 yd m 0.9144 =CONVERT(C6, D6, E6) 7 1 day hr 24 =CONVERT(C6, D6, E6) 9 1 day hr 24 =CONVERT(C8, D8, E8) =CONVERT(C8, D8, E8) 9 1 day hr 24 =CONVERT(C1, D1, E11) 11 day hr 24 =CONVERT(C1, D1, E11) 13 What Does It Do ? This function converts a value measure in one type of unit, to the same value expressed in a different type of unit, such as inches to Centimetres. 14 This function converts a value measure in one type of unit. To ConvertTo =CONVERT(C4, MountToConvert, UnitToConvertFrom, UnitToConvertTo) 9 =CONVERT(C4, MountToConvert, UnitToConvertFrom, UnitToConvert to weight and size of packages from old style UK measuring system to European system. 21 The following table was used by an Import / Exporting company to convert the weight and size of packages from old style UK measuring system to European system. 22 Example			_		cm			
7 1 yr day 365:25 =CONVERT(C8.D8.E8) 1 day hr 24 =CONVERT(C10.D10.E10) 10 1.5 hr mn 90 =CONVERT(C10.D10.E10) 11 day hr 24 =CONVERT(C10.D10.E10) 12 What Does it Do 7 This function converts a value measure in one type of unit, to the same value expressed in a different type of unit, such as inches to Centimetres. Syntax 17 Syntax =CONVERT(CanountToConvert,UnitToConvertFrom,UnitToConvertTo) Formatting 18 =CONVERT(AmountToConvert,UnitToConvertFrom,UnitToConvertTo) Formatting 19 Formatting No special formatting is needed. 22 Example The following table was used by an Import / Exporting company to convert the weight and size of packages from old style UK measuring system to European system. 23 EconvERT(D28, "Ibm", "kg")+CONVERT(E28, "ozm", "kg") 34 =CONVERT(D28, "Ibm", "kg")+CONVERT(E34, "in", "m") 35 =CONVERT(D34, "ft", "m")+CONVERT(E34, "in", "m") 36 32 1.5748 33 =CONVERT(D34, "ft", "m")+CONVERT(E34, "in", "m") 36 33 =CONVERT(D34, "ft", "m")+CONVERT(E34, "in								
8 1 yr day 365.25 =CONVERT(C8,D8,E8) 9 1.5 hr mn 90 =CONVERT(C9,D9,E9) 1.5 hr mn 90 =CONVERT(C10,D10,E10) 1.4 what Does it Do 2 =CONVERT(C11,D11,E11) 1.5 mn sec 30 =CONVERT(C11,D11,E11) 1.6 mn sec 30 =CONVERT(C11,D11,E11) 1.7 Mathematical and the same value expressed in a different type of unit, such as inches to Centimetres. 1.6 Syntax =CONVERT(AmountToConvert,UnitToConvertFrom,UnitToConvertTo) = 1.7 Formatting No special formatting is needed. = 2.1 Formatting No special formatting is needed. = 2.1 Formatting = = 2.2 The following table was used by an Import / Exporting company to convert the weight and size of packages from old style UK measuring system to European system. = 2.1 Formatting = = = 2.2 Status = = = = 2.3 EconvERT(D28,"Ibm", "kg")+CONVERT(E28,"corn", "kg")			1	yd	m	0.9144	=CONVE	RT(C6,D6,E6)
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12 What Does It Do ? 13 This function converts a value measure in one type of unit, to the same value expressed in a different type of unit, such as Inches to Centimetres. 15 in a different type of unit, such as Inches to Centimetres. 16 Syntax =CONVERT(AmountToConvert,UnitToConvertFrom,UnitToConvertTo) 9 Formatting 17 Syntax =CONVERT(AmountToConvert,UnitToConvertFrom,UnitToConvertTo) 9 Formatting 18 =CONVERT(AmountToConvert,UnitToConvertFrom,UnitToConvertTo) 19 Formatting 10 No special formatting is needed. 22 Example 11 The following table was used by an Import / Exporting company to convert the weight and size of packages from old style UK measuring system to European system. 26 Veight 5 3 2.3530101 27 =CONVERT(D28, "Ibm", "kg")+CONVERT(E28,"ozm", "kg") 31 =CONVERT(D34, "Itr", "m")+CONVERT(E28,"ozm", "kg") 32 =Gaan 2 1.5748 33 =CONVERT(D34, "Itr", "m")+CONVERT(E34, "In", "m") Abbreviations 34 =CONVERT(D34, "Itr", "m")+CONVERT(E34, "In", "m") Auting from the possible abbreviations which can b			1.5		mn	90		
Image: Second			0.5	mn	Sec	30	=CONVE	RT(C11,D11,E11)
14 This function converts a value measure in one type of unit, to the same value expressed in a different type of unit, such as Inches to Centimetres. 15 a different type of unit, such as Inches to Centimetres. 17 Syntax 20 Formatting 21 No special formatting is needed. 22 Example 24 The following table was used by an Import / Exporting company to convert the weight and size of packages from old style UK measuring system to European system. 26 Yeight 5 3 2.3530101 27 Pounds Ounces Kilograms 28 Weight 5 2.3530101 29 ECONVERT(D28, "bm", "kg")+CONVERT(E28, "ozm", "kg") 31 =CONVERT(D34, "tr", "m")+CONVERT(E34, "in", "m") 32 Statute mile Meter 33 =CONVERT(D34, "tr", "m")+CONVERT(E34, "in", "m") 34 Statute mile Nmil 35 =CONVERT(D34, "tr", "m")+CONVERT(E34, "in", "m") 41 Gram g 42 Kilogram kg 51 Earth Statute mile 42 Kilogram kg 43 Statute mile			~					
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;		Degree Kelvin	K	
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·		calorie	С	
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		Horsepower-hour	HPh	
		Watt-hour	Wh	
		Foot-pound	flb	
		BTU	BTU	

E	F	G	Н
Tablespoon	tbs		
Fluid ounce	OZ		
Cup	cup		
Pint	pt		
Quart	qt		
Gallon	gal		
Liter			
	_	-	
Power			
Horsepower	HP		
Watt	W		
	-		
Magnetism			
Tesla	T		
Gauss	ga		

These characters can be used as a prefix to access further units of measure. Using "**c**" as a prefix to meters "**m**" will allow centimetres "**cm**" to be calculated.

•			
0	Prefix		Abbreviation
1	exa	1.00E+18	E
2 3	peta	1.00E+15	Р
3	tera	1.00E+12	Т
4	giga	1.00E+09	G
5	mega	1.00E+06	М
6	kilo	1.00E+03	k
7	hecto	1.00E+02	h
8	dekao	1.00E+01	е

Prefix	Multiplier	Abbreviation
deci	1.00E-01	d
centi	1.00E-02	С
milli	1.00E-03	m
micro	1.00E-06	u
nano	1.00E-09	n
pico	1.00E-12	р
femto	1.00E-15	f
atto	1.00E-18	a

1CORREL23Table 1Table 24 $\overline{5}$ $\overline{Month Avg Temp Sales}$ $\overline{Agr Temp Sales}$ 5 $\overline{3an}$ 20 100 \overline{Feb} 30200 \overline{Mar} 30300 \overline{Apr} 40 200 \overline{May} 50 400 $\overline{10}$ $\overline{11}$ $\overline{50}$ $\overline{12}$ $\overline{Correlation}$ $\overline{28000}$ $\overline{20000}$ $\overline{20000}$ $\overline{21,000}$ $\overline{20000}$ $\overline{20,000}$ $\overline{21,000}$ $\overline{220,000}$ $\overline{21,000}$ $\overline{220,000}$ $\overline{21,000}$ $\overline{220,000}$ $\overline{21,000}$ $\overline{220,000}$ $\overline{11}$ $\overline{20000}$ $\overline{21,000}$ $\overline{220,000}$ $\overline{11,000}$ $\overline{20,000}$ <t< th=""><th></th><th>A B</th><th>С</th><th>D</th><th>E</th><th>F</th><th>G</th><th>Н</th><th>I</th><th>J</th></t<>		A B	С	D	E	F	G	Н	I	J		
3 Table 1 Table 2 4 Air Cond Jun Air Cond Sales Jan Advertising Costs Sales Sales E2,000 £20,000 6 Feb 30 200 £20,000 £20,000 7 Mar 30 300 Apr 40 200 8 Mar 30 300 £1,000 £20,000 £1,000 £20,000 10 Correlation 0.864 Correlation 28% correlation 28% 13 =CORREL(D5:D10,E5:E10) =CORREL(G5:G10,H5:H10) Correlation 28% 14 This function examines two sets of data to determine the degree of relationship between the two sets. The result will be a decimal between 0 and 1. 19 The larger the result, the greater the correlation. In Table 1 the Monthly temperature is compared against the Sales of air conditioning units. 20 In Table 2 the Cost of advertising has been compared to Sales. It can be formatted as percentage % to show a more meaning full result. 23 The correlation shows that there is an 28% realtionship between the data. 27 28 Syntax Syntax	1	CORREL										
4 Month Avg Temp Sales Costs Sales 5 Jan 20 100 £20,000 £20,000 6 Feb 30 300 £1,000 £20,000 7 Mar 30 300 £1,000 £20,000 8 May 50 400 £1,000 £20,000 9 Jun 50 400 £1,000 £20,000 11 Correlation 0.864 Correlation 28% 13 =CORREL(D5:D10,E5:E10) =CORREL(G5:G10,H5:H10) 14 This function examines two sets of data to determine the degree of relationship between the two sets. 18 The result will be a decimal between 0 and 1. 19 The larger the result, the greater the correlation. 20 In Table 1 the Monthly temperature is compared against the Sales of air conditioning units. 22 The correlation shows that there is an 0.864 realtionship between the data. 23 In Table 2 the Cost of advertising has been compared to Sales. 14 tc an be formatted as percentage % to show a more meaning full result. 26 The correlation shows that there is an 28% realtionship b	2											
4 Month Avg Temp Sales Costs Sales 5 3an 20 100 £2,000 £20,000 6 Reb 30 200 £1,000 £30,000 7 Mar 30 300 £5,000 £20,000 8 Apr 40 200 £1,000 £40,000 9 Jun 50 400 £1,000 £20,000 11 Correlation 0.864 =CORREL(DS:D10,ES:E10) =CORREL(GS:G10,H5:H10) 14 Correlation 0.864 =CORREL(G5:G10,H5:H10) ECORREL(G5:G10,H5:H10) 14 What Does It Do ? This function examines two sets of data to determine the degree of relationship between the two sets. 16 This function examines two sets of data to determine the degree of relationship between the two sets. 17 between the two sets. In Table 1 the Monthly temperature is compared against the Sales of air conditioning units. 20 In Table 1 the Monthly temperature is an 0.864 realtionship between the data. 21 In Table 2 the Cost of advertising has been compared to Sales. 11 tan be formatted as percentage % to show a more m	3		_	Table 1			Tab	le 2	_			
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6 Feb 30 200 £1,000 £30,000 7 Mar 30 300 £1,000 £30,000 8 Apr 40 200 £1,000 £20,000 9 May 50 400 £8,000 £40,000 10 Jun 50 400 £1,000 £20,000 11 Correlation 0.864 Correlation 28% 13 =CORREL(D5:D10,E5:E10) =CORREL(G5:G10,H5:H10) 14 This function examines two sets of data to determine the degree of relationship between the two sets. 16 This function examines two sets of data to determine the degree of relationship between the two sets. 18 The result will be a decimal between 0 and 1. 19 The larger the result, the greater the correlation. 20 In Table 1 the Monthly temperature is compared against the Sales of air conditioning units. 22 The correlation shows that there is an 0.864 realtionship between the data. 23 In Table 2 the Cost of advertising has been compared to Sales. 14 ta can be formatted as percentage % to show a more meaning full result. 26 The correlation shows that there is an 28% rea	-			<u> </u>								
7Mar303008Apr402009May5040010Jun50400115040012Correlation0.86413=CORREL(D5:D10,E5:E10)=CORREL(G5:G10,H5:H10)14ECORREL(D5:D10,E5:E10)=CORREL(G5:G10,H5:H10)14Mat Does It Do ?This function examines two sets of data to determine the degree of relationship16This function examines two sets of data to determine the degree of relationship17between the two sets.18The result will be a decimal between 0 and 1.19The larger the result, the greater the correlation.20In Table 1 the Monthly temperature is compared against the Sales of air conditioning units.21In Table 2 the Cost of advertising has been compared to Sales.18Thable 2 the Cost of advertising has been compared to Sales.19It can be formatted as percentage % to show a more meaning full result.26The correlation shows that there is an 28% realtionship between the data.272828Syntax												
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9May5040010Jun504001112Correlation0.86413=CORREL(D5:D10,E5:E10)=CORREL(G5:G10,H5:H10)1415What Does It Do ?16This function examines two sets of data to determine the degree of relationship between the two sets.18The result will be a decimal between 0 and 1.19The larger the result, the greater the correlation.20In Table 1 the Monthly temperature is compared against the Sales of air conditioning units.21In Table 2 the Cost of advertising has been compared to Sales.23It can be formatted as percentage % to show a more meaning full result.26The correlation shows that there is an 28% realtionship between the data.272828Syntax							,					
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13 =CORREL(D5:D10,E5:E10) =CORREL(G5:G10,H5:H10) 14 15 15 What Does It Do ? 16 This function examines two sets of data to determine the degree of relationship between the two sets. 18 The result will be a decimal between 0 and 1. 19 The larger the result, the greater the correlation. 20 In Table 1 the Monthly temperature is compared against the Sales of air conditioning units. 22 The correlation shows that there is an 0.864 realtionship between the data. 23 In Table 2 the Cost of advertising has been compared to Sales. 25 It can be formatted as percentage % to show a more meaning full result. 26 The correlation shows that there is an 28% realtionship between the data. 27 28					0.004			000/				
1415161617between the two sets.181919202121111222232411251213141516171818191910111213141415161718192110112223241112141515161717181919101112131415151617171819191111121314151516171718191910111213141515161717181919191911011112 </th <th></th>												
15What Does It Do ?16This function examines two sets of data to determine the degree of relationship17between the two sets.18The result will be a decimal between 0 and 1.19The larger the result, the greater the correlation.20In Table 1 the Monthly temperature is compared against the Sales of air conditioning units.22In Table 1 the Monthly temperature is an 0.864 realtionship between the data.23In Table 2 the Cost of advertising has been compared to Sales.24In Table 2 the Cost of advertising has been compared to Sales.25It can be formatted as percentage % to show a more meaning full result.26The correlation shows that there is an 28% realtionship between the data.272828Syntax			=C0	RREL(D5:D	10,E5:E10)	=00	RREL(G5:G	10,H5:H10)				
16This function examines two sets of data to determine the degree of relationship17between the two sets.18The result will be a decimal between 0 and 1.19The larger the result, the greater the correlation.20121In Table 1 the Monthly temperature is compared against the Sales of air conditioning units.22The correlation shows that there is an 0.864 realtionship between the data.23124In Table 2 the Cost of advertising has been compared to Sales.25It can be formatted as percentage % to show a more meaning full result.26The correlation shows that there is an 28% realtionship between the data.272828Syntax												
17between the two sets.18The result will be a decimal between 0 and 1.19The larger the result, the greater the correlation.20In Table 1 the Monthly temperature is compared against the Sales of air conditioning units.21In Table 1 the Monthly temperature is an 0.864 realtionship between the data.23In Table 2 the Cost of advertising has been compared to Sales.24In Table 2 the Cost of advertising has been compared to Sales.25It can be formatted as percentage % to show a more meaning full result.26The correlation shows that there is an 28% realtionship between the data.272828Syntax												
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19The larger the result, the greater the correlation.20121In Table 1 the Monthly temperature is compared against the Sales of air conditioning units.222123The correlation shows that there is an 0.864 realtionship between the data.23124In Table 2 the Cost of advertising has been compared to Sales.25It can be formatted as percentage % to show a more meaning full result.26The correlation shows that there is an 28% realtionship between the data.272828Syntax					on 0 and 1							
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21In Table 1 the Monthly temperature is compared against the Sales of air conditioning units.22The correlation shows that there is an 0.864 realtionship between the data.23In Table 2 the Cost of advertising has been compared to Sales.25It can be formatted as percentage % to show a more meaning full result.26The correlation shows that there is an 28% realtionship between the data.272828Syntax		The larger	ine resuit, i	ine greater t	ne coneiali	JH.						
22The correlation shows that there is an 0.864 realtionship between the data.23In Table 2 the Cost of advertising has been compared to Sales.24In Table 2 the Cost of advertising has been compared to Sales.25It can be formatted as percentage % to show a more meaning full result.26The correlation shows that there is an 28% realtionship between the data.272828Syntax		In Table 1	the Monthly	, tomporatur	o is compo	od agains	t the Sales of	f air conditio	ning unite			
 23 24 In Table 2 the Cost of advertising has been compared to Sales. 25 It can be formatted as percentage % to show a more meaning full result. 26 The correlation shows that there is an 28% realtionship between the data. 27 28 Syntax 												
 In Table 2 the Cost of advertising has been compared to Sales. It can be formatted as percentage % to show a more meaning full result. The correlation shows that there is an 28% realtionship between the data. Syntax 					5 an 0.004 l	canonsin		c data.				
 25 It can be formatted as percentage % to show a more meaning full result. 26 The correlation shows that there is an 28% realtionship between the data. 27 28 Syntax 		In Table 2	the Cost of	advertising	has been co	omnared to	n Sales					
 26 The correlation shows that there is an 28% realtionship between the data. 27 28 Syntax 				•		•		sult.				
27 28 Syntax							•					
28 Syntax												
		Syntax										
29 =CORREL(Range1,Range2)	29		(Range1.Ra	ange2)								
30			(- J -), -	J- /								
31 Formatting		Formatting	9									
32 The result will normally be shown in decimal format.				y be shown	in decimal f	ormat.						

COUNT

	A B	С	D	E	F	G	Н	I	J			
1	COUNT											
2												
3		Entrie	es To Be Co	unted	Count							
4		10	20	30	3	=COUNT(
5		10	0	30	3	=COUNT(
6		10	-20	30	3	=COUNT(
7		10	1-Jan-88	30	3	=COUNT(
8		10	21:30	30	3	=COUNT(
9		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$										
10	10 30 2 =COUNT(C10:E10)											
11	10 Hello 30 2 =COUNT(C11:E11)											
12	10 #DIV/0! 30 2 =COUNT(C12:E12)											
13												
14												
15	This function counts the number of numeric entries in a list.											
16	It will ignore blanks, text and errors.											
17	Symtox											
18 19	Syntax	Dangal Dar	nge2,Range	2 through	to Dongo?	20)						
20		kanye1,Rai	iyez,Raliye	S through	i to Ranges	50)						
20	Formatting	N										
21	No special		is needed									
22	No special	Iomatting	is needed.									
24	Example											
25		ng table wa	is used by a	builders m	erchant to	calculate the	e number o	fsales				
26			each mont					. 50.00				
27		r										
28		Item	Jan	Feb	Mar	1						
29		Bricks	£1,000			1						
30		Wood	,	£5,000		1						
31		Glass	£2,000	£1,000		1						
32		Metal	£1,000	,		1						
33		Count	3	2	0	1						
34		=C(OUNT(D29:I	032)		-						

	А	В	С	D	E	F	G	н		J				
1			0	D	–	•	0		•	•				
2														
3		1	Entrie	es To Be Co	unted	Count	1							
4			10	20	30	3	=COUNTA	(C4:E	Ξ4)					
5			10	0	30	3	=COUNTA							
6			10	-20	30	3	=COUNTA	(C6:E	E6)					
7			10	1-Jan-88	30	3	=COUNTA							
8			10	21:30	30	3	=COUNTA							
9			10	0.3757699	30	3	=COUNTA(C9:E9)							
10			10		30	2	=COUNTA(C10:E10)							
11			10	Hello	30	3	=COUNTA(C11:E11)							
12			10	#DIV/0!	30	3	=COUNTA	(C12)	:E12)					
13	What Does It Do ?													
14 15	-			o number o	f numeric o	r tovt ontrid	s in a list							
16	This function counts the number of numeric or text entries in a list. It will ignore blanks.													
17		it will ignore	c blanks.											
18		Syntax												
19			(Range1.Ra	ange2,Rang	e3 throuc	h to Range	e30)							
20				0 / 0		, 0	,							
21	Formatting													
22	No special formatting is needed.													
23														
24		Example												
25						ceep track of	of the exami	natior	ns taken by each	n pupil.				
26				as graded as	s 1, 2 or 3.									
27		A failure wa	as entered	as ⊢ail.										
28	-	The echoel	nandad ta			a aat aaab	0.1.0.120							
29 30				known how			exam. e taken by ea	ach ni	unil					
30		THE SCHOOL	also neede		low many e	xams were	aken by ea	acri pi	upii.					
32	-	The =COU	NTA() funct	ion has hee	n used her	ause of its	ability to co	unt te	xt and numeric e	ontries				
33							ability to 00							
									Exams Taken	1				
34				Maths	English	Art	History		By Each Pupil					
35			Alan	Fail		1			2	1				
36			Bob	2	1	3			3					
37			Carol		1	1	1		3					
38			David	Fail		Fail			2					
39			Elaine	1	3	2	Fail		4					
40														
41	How many pupils sat each Exam.													
42				Maths	English	Art	History							
43				4	3	5	2							
44			=CC	UNTA(D35	:D39)									

	A B C D E F G H I													
1	COUNTBL													
2														
3		Range To Test	1	Blanks										
4		1	1	2	=COUNTE	BLANK(C4:	C11)							
5		Hello	1		•									
6		3	1											
7		0	1											
8			1											
9		1-Jan-98												
10														
11		5												
12														
13	What Does													
14	This function counts the number of blank cells in a range.													
15														
16	Syntax =COUNTRLANK(RangeTeTest)													
17	=COUNTBLANK(RangeToTest)													
18	Formatting													
19	Formatting													
20	No special formatting is needed.													
21	Example													
22 23	Example The following table was used by a company which was balloting its workers on whether													
23	The following table was used by a company which was balloting its workers on whether the company should have a no smoking policy.													
24	the company should have a no smoking policy.													
25	Each of the departments in the various factories were questioned. The response to the question could be Y or N.													
27		ilts of the vote w			ered in to t	he table								
28		NTBLANK() fund					epartments	which						
29		t registered a vo												
30														
31		Admin	Accounts	Production	Personnel	1								
32	Factory 1	Y	N											
33	Factory 2		Y	Y	N									
34	Factory 3					1								
35	Factory 4	N		N	N]								
36	Factory 5	Y		Y]								
37	Factory 6	Y	Y	Y	N]								
38	Factory 7		N	Y										
39	Factory 8	N	N	Y	Y									
40	Factory 9 Y													
41	Factory 10 Y N Y													
42					1									
43		Votes not vet r	egistered :	16	=COUNTE	3LANK(C32	2:F41)							
44														
45		Vote	es for Yes :	14	=COUNTI	F(C32:F41,	"Y")							
46			too for No :	10			UN IU)							
47		V0	tes for No :	10	=COUNTI	F(U32:F41,	IN")							
				Votes for No :10=COUNTIF(C32:F41,"N")										

	A B	С	D	E	F	G							
1	COUNTIF												
2													
3		Item	Date	Cost									
4		Brakes	1-Jan-98	80									
5		Tyres	10-May-98	25									
6		Brakes	1-Feb-98	80									
7		Service	1-Mar-98	150									
8		Service	5-Jan-98	300									
9	Window 1-Jun-98 50												
10	Tyres 1-Apr-98 200												
11													
12													
13				-									
14													
15													
16													
17													
18	Type the n	ame of the item	to count.	service	2	=COUNTIF(C4:C12,E18)							
19	-												
20													
21	What Doe												
22	I his function	on counts the n	umber of items	which mate	ch criteria s	set by the user.							
23	0												
24	Syntax			d Oritoria Ta	DeMeteke								
25		(RangeOfThing		,		u)							
26	-	a can be typed i	•										
27		a specific numb											
28	-		•	•		NTIF(A1:A5, "Hello")							
29	Το match ι	using operators	surround the e	expression v	vith quotes,	, such as =COUNTIF(A1:A5, ">100")							
30													
31	Formatting												
32	No special	formatting is ne	eded.										

DATE

	A B	С	D	Е	F	G	Н	I	J				
1	DATE												
2													
3	Day Month Year Date												
4	25 12 99 12/25/1999 =DATE(E4,D4,C4)												
5	25 12 99 25-Dec-99 =DATE(E5,D5,C5)												
6	33 12 99 January 2, 2000 =DATE(E6,D6,C6)												
7													
8	What Does It Do?												
9	This	functior	n create	s a real d	ate by using three normal	numbers typed into sep	arate cells.						
10													
11	Synta	ax											
12	=DA	TE(yea	r,month	,day)									
13													
14		atting											
15					splayed in the dd/mm/yy fo								
16	By us	sing the	e Format	t,Cells,Nu	mber,Date command the	format can be changed.							

1 DATEVALUE 2 3 4 25-dec-99 5 6 7 25/12/99 8 Err:502		
3 Date Date Value 4 25-dec-99 36519 =DATEVALUE(C4) 5 25/12/99 Err:502 =DATEVALUE(C5) 6 25-dec-99 36519 =DATEVALUE(C6) 7 25/12/99 Err:502 =DATEVALUE(C7)		
4 25-dec-99 36519 =DATEVALUE(C4) 5 25/12/99 Err:502 =DATEVALUE(C5) 6 25-dec-99 36519 =DATEVALUE(C6) 7 25/12/99 Err:502 =DATEVALUE(C7)		
5 25/12/99 Err:502 =DATEVALUE(C5) 6 25-dec-99 36519 =DATEVALUE(C6) 7 25/12/99 Err:502 =DATEVALUE(C7)		
6 25-dec-99 36519 =DATEVALUE(C6) 7 25/12/99 Err:502 =DATEVALUE(C7)		
7 25/12/99 Err:502 =DATEVALUE(C7)		
9 What Does It Do?		-
10 The function is used to convert a piece of text into a date which can be used in calculation		
11 Dates expressed as text are often created when data is imported from other programs, s	such as	
12 exports from mainframe computers.		
14 Syntax		
15 =DATEVALUE(text)		-
17 Formatting		
18 The result will normally be shown as a number which represents the date. This number of	can	-
19 be formatted to any of the normal date formats by using Format, Cells, Number, Date.		
20		
21 Example		_
22 The example uses the =DATEVALUE and the =TODAY functions to calculate the number	er of	-
23 days remaining on a property lease.		
24		
25 The =DATEVALUE function was used because the date has been entered in the cell as		
26 a piece of text, probably after being imported from an external program.		
27		
28 Property Ref. Expiry Date Days Until Expiry		
29 BC100 25-dec-99 -5595		
30 FG700 10-july/99 Err:502		
31 TD200 13-sep-98 -6063		
32 HJ900 30/5/2000 Err:502		
33 =DATEVALUE(E32)-TODAY(0	

DAVERAGE

	^		~	5	-		~			7		
	A	B	C	D	E	F	G	Н	I	J		
	D/	AVERAC	E									
2		This is the Database range.										
3		Dreduct Wettage Hours Brand Unit Cast Quantity Steek Steek										
		Product	Wattage	Hours	Brand	Unit Cost	Quantity	Stock	Stock			
4		Bulb	200	3000	Horizon	£4.50	4	3	£54.00			
5		Neon	100	2000	Horizon	£2.00	15	2	£60.00			
6 7		Spot Other	60 10	8000	Sunbeam	£0.80	25	6	£0.00 £120.00			
8		Bulb	80	1000	Horizon	£0.80 £0.20	40	3	£120.00 £24.00			
9		Spot	100	unknown	Horizon	£1.25	10	4	£50.00			
10		Spot	200	3000	Horizon	£2.50	15	0	£0.00			
11		Other 25 unknown Sunbeam £0.50 10 3 £15.00										
12		Bulb 200 3000 Sunbeam £5.00 3 2 £30.00										
13		Neon 100 2000 Sunbeam £1.80 20 5 £180.00										
14		Neon 100 2000 Sunbeam £1.80 20 5 £180.00 Bulb 100 unknown Sunbeam £0.25 10 5 £12.50										
15		Bulb	10	800	Horizon	£0.20	25	2	£10.00			
16		Bulb	60	1000	Sunbeam	£0.15	25	0	£0.00			
17		Bulb	80	1000	Sunbeam	£0.20	30	2	£12.00			
18		Bulb	100	2000	Horizon	£0.80	10	5	£40.00			
19		Bulb	40	1000	Horizon	£0.10	20	5	£10.00			
20			a tha Avara	and apost of a	- nortioulor	Drand of hu	lla					
21 22		TO Calculat	e lite Avera	ge cost of a	a particular	Brand of bu	ID.					
22					Drand	Those two	colls are th	· Critoria r	2000			
23		Brand These two cells are the Criteria range.										
25		Type the brand name : sunbeam										
26	٦	The Average cost of sunbeam is : 1.24 =DAVERAGE(B3:I19,F3,E23:E24)										
27		The Average cost of sundeam is : <u>£1.24</u> =DAVERAGE(B3:119,F3,E23:E24)										
28		What Does It Do ?										
29		This function examines a list of information and produces and average.										
30												
31		Syntax										
32		=DAVERA	GE(Databas	seRange,Fi	eldName,C	riteriaRange	e)					
33		The Datab	aseRange i	is the entire	e list of infor	mation you	need to exa	amine, inclu	iding the			
34			s at the top			-			0			
35		The FieldN	lame is the	name or c	ell of the va	alues to he :	averaned s	uch as "I In	it Cost" or F	3		
							-					
36			-	•		of informatic		4 - I- ·				
37								to be used	as the basis	5		
38		IUT SEIECT	ing the reco	nus, such a	is the categ	ory Brand c	n vvattage.					
39							ecords, whi	ch are to be	e selected, s	uch		
40		as Horizo	on as a brar	nd name, or	100 as the	wattage.						
41												
42		Formatting										
43		No special	formatting i	s needed.								
44		Evomeloc										
45	Examples											
46 47	The average Unit Cost of a particular Product of a particular Brand.											
47		της αντιαί		st of a part		act of a pa						
40					Product	Brand						
50					Bulb	Horizon						
51							1					
52		The avera	ge of Horizo	on Bulb is :	£1.16	=DAVERA	GE(B3:I19,	F3,E49:F50))			
53			-				· · · · ·					
54		This is the	same calcu	lation but u	sing the act	tual name "l	Unit Cost" i	nstead of th	e cell addre	SS.		
55					-							

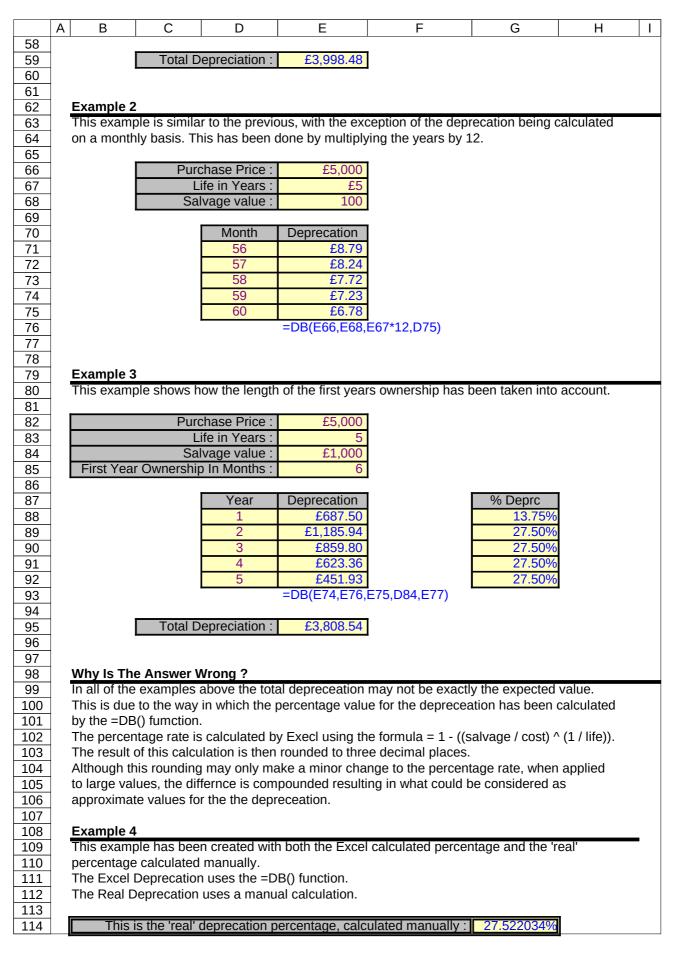
173Fu	Intic	onsofExcel.>	kls at 04/20	/2015	DAVERAGE			Page 37 of 195				
	А	В	С	D	E	F	G	Н	I	J		
56					£1.16	=DAVERA	GE(B3:I19,	"Unit Cost"	,E49:F50)			
57						-						
58		The averag	ge Unit Cos	st of a Bulk	equal to a	particular	Wattage.					
59												
60		Product Wattage										
61					Bulb	100						
62						_	-					
63		Av	verage of Bi	ulb 100 is :	£0.53	=DAVERA	GE(B3:I19,	"Unit Cost"	,E60:F61)			
64						_						
65		The average	ge Unit Cos	st of a Bulk	less then	a particula	r Wattage.					
66												
67					Product	Wattage						
68					Bulb	<100						
69						_	-					
70		Ave	erage of Bul	b <100 is :	£0.17	=DAVERA	GE(B3:I19,	"Unit Cost"	,E67:F68)			

DAY

	A B	С	D	E	F	G	Н				
1	DAY										
2				_							
3		Full Date	The Day								
4		25-Dec-98	25	=DAY(C4)							
5		20-Apr-15	Fri 19	=DAY(C5)							
6		20-Apr-15	20	=DAY(C6)							
7											
8		Does It Do?									
9	This f	unction extracts the	e day of the mont	th from a complete	e date.						
10	_										
11	Synta										
12	=DA`	Y(value)									
13	_										
14		atting									
15	-	•			ted to show the actua						
16	day o	t the week by using	g Format,Cells,Ni	umper, custom and	d using the code ddd	or aaad.					
17	- Even										
18	Example										
19	The =DAY function has been used to calculate the name of the day for your birthday.										
20		acco optor vour do	to of hirth in the f	ormat dd/mm/sr.	3/25/1962	I					
21		ease enter your da									
22			Ϋ́́Ο	u were born on :	Wednesday 24	=DAY(F21)					

	A	В	С	D	E	F					
1	DAYS	360									
2											
3			StartDate	EndDate	Days Between	* See the Note below.					
4			1-Jan-98	5-Jan-98	4	=DAYS360(C4,D4,TRUE)					
5			1-Jan-98	1-Feb-98	30	=DAYS360(C5,D5,TRUE)					
6	1-Jan-98 31-Mar-98 89 =DAYS360(C6,D6,TRUE)										
7			1-Jan-98	31-Dec-98	359	=DAYS360(C7,D7,TRUE)					
8											
9		Does It									
10			•			0-day year (twelve 30-day months).					
11	Use t	his func	tion if your acco	unting system i	s based on twelve	e 30-day months.					
12											
13	Synta										
14	-	•	StartDate,EndDa		,						
15	4		e this for Europe	•	•						
16	FAL	_SE : Us	se this for USA a	ccounting syst	ems.						
17	_	_									
18		atting									
19	The result will be shown as a number.										
20	-										
21	Note										
22	The calculation does not include the last day. The result of using 1-Jan-98 and 5-Jan-98 will										
23	give a	a result o	of 4. To correct t	his add 1 to the	e result. =DAYS3	60(Start,End,TRUE)+1					

	A B	C D	E	F	G	Н	
1	DB			I	0	11	
2							
3		Purchase Pr	ice : £5,000	1			
4		Life in Yea					
5		Salvage va	ue : £200	1			
6				-			
7		Yea					
8	-	1	£2,375.00	=DB(E3,E5,E4,D			
9	-	2	£1,246.88				
10	-	3		=DB(E3,E5,E4,D			
11	-	4	£343.67				
12 13	-	5	£180.43	=DB(E3,E5,E4,D	12)		
13		Total Depreciat	on · £4,800,58	* See example 4	bolow		
15		Total Depreciat	L4,000.30	See example 4	Delow.		
16	What Does It	Do ?					
17			ation based upon a	fixed percentage.			
18			the fixed percentag				
19			e percentage, but u		lue of the item	less	
20	the first years	•	-	-			
21			same percentage, ι	ising the original v	alue of the iter	n less	
22		on of the previou					
23			preciation is not set				
24	the necessary	percentage, whi	ch will be vary base	d upon the values	inputted by the	e user.	
25	An additional f	acture of this fur	ation is the shility to	taka inta agagunt	when the item		
26 27	originally purcl		nction is the ability to	ake into account	. when the item	1 was	
28			way through the fina	ancial voar the fire	st voars donro	riation	
20			part of the year.	ancial year, the ma	st years depret	Jation	
30			part of the year				
31	Syntax						
32		Price,SalvageVa	alue,Life,PeriodToC	alculate,FirstYearN	Month)		
33	The FirstYear	Month is the mor	th in which the item	was purchased du	uring the		
34		ear. This is an o	ptional value, if it no	t used the functior	n will assume 1	L2 as	
35	the value.						
36							
37	Formatting	notting is seed.	4				
38	INU SPECIAL FOR	natting is neede	u.				
39 40	Example 1						
40		shows the nerce	ntage used in the de	preciation			
42			pon the original Pur				
43			pon the original Pur			cation.	
44			on original Purchas				
45			ted purely to demon			-	
46				_			
47		Purchase Pr		1			
48		Salvage va		4			
49	. L	Life in Yea	ars : 5	l			
50	-		r Donrocction	1			
51	4	Yea	r Deprecation £1,375.00	4	% Deprc 27.50%	-	
52 53		1	£1,375.00 £996.88	4	27.50%	-	
53	-	3	£990.00 £722.73		27.50%	-	
55	-	4	£523.98		27.50%	-	
56	-	5	£379.89		27.50%	-	
57			=DB(E47,E48		21.0070	_	
	1		(,				



	Α	В	С	D	E	F	G	Н	Ι		
115						=1-((E	E117/E116)^(1/	E118))			
116			Purc	chase Price :	£5,000	= 1 - ((sa	= 1 - ((salvage / cost) ^ (1 / life)).				
117			Sal	vage value :	£1,000	£1,000					
118			Li	ife in Years :	5						
119							-				
120					Excel	Real		Excel			
120				Year	Deprecation	Depreciation		% Deprc			
121				1	£1,375.0000	£1,376.1017		27.500%			
122				2	£996.8750	£997.3705		27.500%			
123				3	£722.7344	£722.8739		27.500%			
124				4	£523.9824	£523.9243		27.500%			
125				5	£379.8873	£379.7297		27.500%			
126							-	-	-		
127			Total D	epreciation :	£3,998.48	£4,000.00					
128]						-				
129				Er	ror difference :	£1.52					

DCOUNT

A B C D E F G H 1 DCOUNT This is the Determined on the		J								
	base range.									
3 Life Box Boxes Ir										
Product Wattage Hours Brand Unit Cost Quantity Stock	Stock									
4 Bulb 200 3000 Horizon £4.50 4 3 5 Neon 100 2000 Horizon £2.00 15 2	£54.00 £60.00									
S Neon 100 2000 Honzon E2.00 13 2 6 Spot 60	£0.00									
7 Other 10 8000 Sunbeam £0.80 25 6	£120.00									
8 Bulb 80 1000 Horizon £0.20 40 3	£24.00									
9 Spot 100 unknown Horizon £1.25 10 4	£50.00									
10 Spot 200 3000 Horizon £2.50 15 1	£37.50									
11 Other 25 unknown Sunbeam £0.50 10 3	£15.00									
12 Bulb 200 3000 Sunbeam £5.00 3 2	£30.00									
13 Neon 100 2000 Sunbeam £1.80 20 5	£180.00									
14 Bulb 100 unknown Sunbeam £0.25 10 5	£12.50									
15 Bulb 10 800 Horizon £0.20 25 2	£10.00									
16 Bulb 60 1000 Sunbeam £0.15 25 1	£3.75									
17 Bulb 80 1000 Sunbeam £0.20 30 2	£12.00									
18 Bulb 100 2000 Horizon £0.80 10 5 10 5 10 5 10 5 10 5	£40.00									
19 Bulb 40 1000 Horizon £0.10 20 5 20	£10.00									
20 21 Count the number of products of a particular Brand which have a Life Hours ra	ating									
22 22	ung.									
23 Brand These two cells are the Criteria	range									
24 Type the brand name : Horizon	lange.									
25										
26 The COUNT value of Horizon is : 7 =DCOUNT(B3:I19,D3,E23:E24)										
27										
28 What Does It Do ?										
29 This function examines a list of information and counts the values in a specifie	ed column.									
30 It can only count values, the text items and blank cells are ignored.										
31										
32 Syntax										
33 =DCOUNT(DatabaseRange,FieldName,CriteriaRange)										
34 The DatabaseRange is the entire list of information you need to examine, inc	uding the									
35 field names at the top of the columns.										
36 The FieldName is the name, or cell, of the values to Count, such as "Value O	f Stock" or I3									
The one naturate up of two types of monitorination.	d oo tha hasi									
38 The first set of information is the name, or names, of the Fields(s) to be use 39 for selecting the records, such as the category Brand or Wattage.	a as the dasis	•								
40 The second set of information is the actual record, or records, which are to I	be selected, s	uch								
41 as Horizon as a brand name, or 100 as the wattage.										
42										
43 Formatting										
44 No special formatting is needed.										
45 46 Examples										
The count of a particular product, with a specific number of boxes in stock.										
48 The count of a particular product, with a specific number of boxes in sto										
50 Product Stock										
51 Bulb 5										
52										
53The number of products is :3=DCOUNT(B3:I19,H3,E50:F51)										
54										

DCOUNT

	А	В	С	D	E	F	G	Н	I	J		
55		This is the	same calcu	lation but u	sing the na	me "Boxes	In Stock" in	stead of the	e cell addres	SS.		
56						_						
57					3	=DCOUN1	Г <mark>(</mark> ВЗ:I19,"Во	oxes In Sto	ck",E50:F51	.)		
58												
59		The count of the number of Bulb products equal to a particular Wattage.										
60	-											
61					Product	Wattage						
62					Bulb	100						
63						-	-					
64			The	e count is :	2	=DCOUNT	(B3:I19,"Bo	oxes In Sto	ck",E61:F62	2)		
65												
66		The count	of Bulb pr	oducts bet	ween two V	Wattage va	lues.					
67												
68					Product	Wattage	Wattage					
69					Bulb	>=80	<=100					
70								-				
71			The	e count is :	4	=DCOUN1	(B3:I19,"Bo	oxes In Sto	ck",E68:G69	9)		

DCOUNTA

	А	В	С	D	E	F	G	Н	I	J	
1	D	COUNT	4								
2							This i	s the Datak	oase range.		
3				Life			Box	Boxes In	Value Of		
5		Product	Wattage	Hours	Brand	Unit Cost	Quantity	Stock	Stock		
4		Bulb	200	3000	Horizon	£4.50	4	3	£54.00		
5		Neon	100	2000	Horizon	£2.00	15	2	£60.00		
6		Spot Othor	60	9000	Support	09.00	25	6	£0.00		
7 8		Other Bulb	10 80	8000 1000	Sunbeam Horizon	£0.80 £0.20	25 40	6 3	£120.00 £24.00		
9		Spot	100	unknown	Horizon	£1.25	10	4	£50.00		
10		Spot	200	3000	Horizon	£2.50	15	1	£37.50		
11		Other	25	unknown	Sunbeam	£0.50	10	3	£15.00		
12		Bulb	200	3000	Sunbeam	£5.00	3	2	£30.00		
13		Neon	100	2000	Sunbeam	£1.80	20	5	£180.00		
14		Bulb	100	unknown	Sunbeam	£0.25	10	5	£12.50		
15		Bulb	10	800	Horizon	£0.20	25	2	£10.00		
16		Bulb	60	1000	Sunbeam	£0.15	25	1	£3.75		
17		Bulb	80	1000	Sunbeam	£0.20	30	2	£12.00		
18		Bulb	100	2000	Horizon	£0.80	10	5	£40.00		
19		Bulb	40	1000	Horizon	£0.10	20	5	£10.00		
20 21		Count the r	number of p	roducte of a	, particular	Prond					
21					a particulai	Dialiu.					
22					Brand	These two	cells are th	o Criteria r	ange		
24		т	ype the bra	nd name ·	Horizon			c ontena n	unge.		
25			ype the bid		110112011						
26		The COUN	T value of H	lorizon is :	8	=DCOUNT	Г <mark>А(</mark> ВЗ:I19,Е	3,E23:E24))		
27						1		· · · ·			
28		What Does	s It Do ?								
29								k cells in a	specified co	lumn.	
30		It counts va	alues and te	xt items, bı	ut blank cell	s are ignore	ed.				
31		. .									
32		Syntax	A (Databaaa			ha wi a D a va av a V					
33		=DCOUNT.	A(Database	eRange,Fie	idiName,Cri	teriaRange)					
34		The Databa	aseRange i	s the entire	list of infor	mation you	need to exa	amine, inclu	uding the		
35		field names	s at the top	of the colur	nns.						
36		The FieldN	l ame is the	name or c	ell of the va	alues to Cou	int such as	: "Value Of	Stock" or I3		
37										•	
			aRange is I					to bo	an the hard	_	
38			set of inform		,	,	()		as the basis	5	
39			0			-	U U				
40							ecords, whi	ch are to be	e selected, s	such	
41		as Horizo	on as a bran	id name, or	100 as the	wattage.					
42		-									
43		Formatting		0 10 0							
44		NO SPECIAL	formatting i	s needed.							
45		Evamplac									
46 47											
47											
40											
50											
51					Bulb	unknown					
52							1				
53	1	The n	umber of pr	oducts is :	1	=DCOUNT	FA(B3:I19,D	3,E50:F51)		
54	1		- 1-				/-	,,			
55	1	This is the	same calcu	lation but u	sing the na	me "Life Ho	urs" instead	d of the cell	address.		

173Fu	ntio	nsofExcel.>	kls at 04/20	/2015	DCOUI	NTA			Page 46 d	of 195		
	А	В	С	D	E	F	G	Н	I	J		
56						_						
57					1	=DCOUNT	TA(B3:I19,"I	_ife Hours"	,E50:F51)			
58												
59		The count	of the num	nber of pa	rticular pro	duct of a s	pecific bra	nd.				
60												
61	Product Brand											
62					Bulb	Horizon						
63				_		•						
64			The	e count is :	5	=DCOUN1	⁻ A(B3:I19,"I	Product",E6	61:F62)			
65					-							
66		The count	of particul	ar product	ts from spe	cific brand	s.					
67							1					
68					Product	Brand						
69					Spot	Horizon						
70					Neon	Sunbeam						
71			T L									
72			The	e count is :	3	=DCOUNI	FA(B3:I19,"I	-roduct",E6	58:F70)			

DEC2BIN

	A B	С	D	E	F	G	Н
1	DEC2BIN						
2							
3		Decimal Number	Binary Equivalent				
4		0		=DEC2BIN(C4)			
5		1	1	=DEC2BIN(C5)			
6		2	10	=DEC2BIN(C6)			
7		3	11	=DEC2BIN(C7)			
8		511	111111111	=DEC2BIN(C8)			
9		512	Err:502	=DEC2BIN(C9)			
10		-1	1111111111	=DEC2BIN(C10)			
11		-2		=DEC2BIN(C11)			
12		-3	1111111101				
13		-511	100000001				
14		-512	100000000	=DEC2BIN(C14)			
15					_		
16		Decimal Number	Places To Pad	Binary Equivalent			
17		1	1	1		I(C17,D17)	
18		1	2		=DEC2BIN		
19		1	3		=DEC2BIN		
20	_	1	9	00000001			
21	-	-1	1	1111111111	=DEC2BIN	(C21,D21)	
22	-						
23	What Doe						
24			nal number to its bi				
25			s ranging from -512				
26	The result	can be padded wit	h leading 0 zeros, a	although this is igno	ored for nega	atives.	
27							
28	Syntax						
29		I(DecimalNumber,F	,				
30	The Places	sToPad is optional.					
31	 						
32	Formattin		-				
33	No special	formatting is need	ed.				

г

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DEC2HEX

	A B	С	D	E	F	G	Н			
1	DEC2HEX									
2										
3		Decimal Number	Hexadecimal							
4		0		=DEC2HEX(C4)						
5		1	1	/						
6		2	2							
7		3	3	=DEC2HEX(C7)						
8		25		=DEC2HEX(C8)						
9		26		=DEC2HEX(C9)						
10		27		=DEC2HEX(C10)						
11		28		=DEC2HEX(C11)						
12		-1		=DEC2HEX(C12)						
13	-	-2		=DEC2HEX(C13)						
14		-3		=DEC2HEX(C14)						
15		-2	FFFFFFFE							
16		-1		=DEC2HEX(C16) =DEC2HEX(C17)						
17 18	-	549,755,813,887 -549,755,813,888		=DEC2HEX(C17) =DEC2HEX(C18)						
10		549,755,813,888		=DEC2HEX(C18)						
20		-549,755,813,889		=DEC2HEX(C20)						
20		343,733,013,013,003								
22		Decimal Number	Places To Pad	Hexadecimal						
23		1	1		=DEC2HE	X(C23,D23)				
24	-	1	2			X(C24,D24)				
25		26	3			X(C25,D25)				
26		26	9			X(C26,D26)				
27		-26	1	FFFFFFFE6						
28	1									
29	What Does									
30		on converts a decim								
31		cope with decimals								
32	The result	can be padded with	leading 0 zeros, al	though this is ignor	ed for nega	tives.				
33										
34	Syntax									
35	=DEC2HEX(DecimalNumber,PlacesToPad)									
36	The Places	sToPad is optional.								
37										
38	Formatting									
39	No special	formatting is neede	ed.							

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	A B	С	D	E	F	G	Н	I	J		
1	DELTA										
2											
3		Number1	Number2	Delta	1						
4		10	20	0	=DELTA(C	C4,D4)					
5		50	50	1	=DELTA(C	5,D5)					
6		17.5	17.5	1	=DELTA(C	C6,D6)					
7		17.5	18	1	=DELTA(C	C7,D7)					
8		17.50%	0.175	1	=DELTA(C	(8,D8)					
9		Hello Hello #VALUE! =DELTA(C9,D9)									
10		1 =DELTA(C10,D10)									
11											
12	What Does It Do?										
13		This function compares two values and tests whether they are exactly the same.									
14		If the numbers are the same the result will be 1, otherwise the result is 0. It only works with numbers, text values produce a result of #VALUE.									
15			,								
16		The formatting of the number is not significant, so numbers which appear rounded due									
17	to the removal of decimal places will still match correctly with non rounded values.										
18											
19	Syntax										
20	=DELTA(F	irstNumber,	SecondNum	ıber)							
21											
22	Formatting										
23	No special	formatting i	s needed.								
24											
25	Example										
26		•	used to deter								
27	The =DEL	FA() functior	n tests each	pair and the	en the =SUI	M() function	totals then	n.			
28					•						
29		Number1	Number2	Delta							
30		10	20	0	=DELTA(C						
31	-	50	50	1	=DELTA(C						
32	30 30 1 =DELTA(C32,D32)										
33		17.5	18	1	=DELTA(C						
34		12	8	0	=DELTA(C						
35		100	100	1	=DELTA(C						
36		150	125	0	=DELTA(C						
37			Total Pairs	4	=SUM(E30):E36)					

DGET

	A	В	С	D	E	F	G	Н	I I	J
1		GET	U	D	<u> </u>	1	0		1	
2							Thic i	s the Datab	aco rango	
<u> </u>	-			Life			Box	Boxes In		
3		Product	Wattage	Hours	Brand	Unit Cost	Quantity	Stock	Stock	
4		Bulb	200	3000	Horizon	£4.50	4	3	£54.00	
5		Neon	100	2000	Horizon	£2.00	15	2	£60.00	
6		Spot	60						£0.00	
7		Other	10	8000	Sunbeam	£0.80	25	6	£120.00	
8		Bulb	80	1000	Horizon	£0.20	40	3	£24.00	
9		Spot	100	unknown	Horizon	£1.25	10	4	£50.00	
10		Spot	200	3000	Horizon	£2.50	15	1	£37.50	
11		Other	25	unknown	Sunbeam	£0.50	10	3	£15.00	
12		Bulb	200	3000	Sunbeam	£5.00	3	2	£30.00	
13		Neon	100	2000	Sunbeam	£1.80	20	5	£180.00	
14		Bulb	100	unknown	Sunbeam	£0.25	10	5	£12.50	
15		Bulb	10	800	Horizon	£0.20	25	2	£10.00	
16 17	+	Bulb Bulb	60 80	1000 1000	Sunbeam Sunbeam	£0.15 £0.20	25 30	1 2	£3.75 £12.00	
17	+	Bulb	100	2000	Horizon	£0.20 £0.80	10	5	£12.00 £40.00	
19		Bulb	40	1000	Horizon	£0.80 £0.10	20	5	£40.00	
20		Duib		1000	110112011	20.10	20		210.00	
21		How many	boxes of a	particular it	em do we h	ave in stocl	k?			
22		,								
22	1				Life					
23			Product	Wattage	Hours	Brand				
24			Bulb	100		Horizon				
25										
26			Th	ie number i	n stock is :	5	=DGET(B3	3:I19,H3,C2	:3:F24)	
27										
28		What Does		a list of in	formation a					
29 30	-					nd produces the error #N				
31	-					LUE is show		VII.		
32	-						VII.			
33	1	Syntax								
34			tabaseRan	ge,FieldNa	ne,CriteriaF	Range)				
35	1	· ·				U ,	nood to and	mino inclu	ding the	
36	-		s at the top			mation you	need to exa	amme, inclu	iung the	
	-		•							
37		The FieldN	lame is the	name, or c	ell, of the va	alues to Get	, such as "\	Value Of St	ock" or I3.	
38		The Criteri	aRange is I	made up of	two types of	of informatio	on.			
39	1							to be used	as the basis	6
40	1					ory Brand c				
41	1		•		•	record whic	U U	ha salaataa	1 such	
42	-		on as a bran				in needs to	NE SEIECIEC	i, Such	
42	1		ni us a vidi	ia name, u	100 as the	wallaye.				
43	1	Formatting	a a a a a a a a a a a a a a a a a a a							
45			formatting i	s needed.						
46	1									
47	1	Example 1	·							
			ole extracts	informatior	from just o	ne record.				
48	-				-					
48										
49 50		How many	boxes of a	particular it	em do we h	ave in stocl	k?			
49	-	How many	boxes of a	particular it		ave in stocl	k?			
49 50 51	-	How many		-	Life		k?			
49 50 51 52	-	How many	Product	Wattage		Brand	k?			
49 50 51	-	How many		-	Life		k?			

173Fu	IntionsofExcel	.xls at 04/20	/2015	т			Page 51	of 195	
	A B	С	D	E	F	G	Н	I	J
55		Tł	he number i	n stock is :	5	=DGET(B3	3:I19,H3,C5	1:F52)	
56						•			
57									
58	Example								
59	This exam	ple extracts	information	i from multi	ple records	and therefo	ore shows th	ne #NUM e	rror.
60					· ,				
61	How many	y boxes of a	particular it	em do we r	lave in stoc	K?			
62				Life		1			
63		Product	Wattage	Hours	Brand				
64		Bulb	100	HUUIS	Dianu				
65		Daib	100						
66		Th	ne number i	n stock is :	Err:502	=DGET(B3	3:I19,H3,C6	3:F64)	
67	-					,			
68									
69	Example								
70	This exam	ple extracts	information	i from no re	cords and t	herefore sh	ows the #V	ALUE error	
71									
72	How many	y boxes of a	particular it	em do we h	lave in stoc	K?			
73				Life		1			
74		Product	Wattage	Hours	Brand				
75		Bulb	9999		Drana				
76						1			
77		Th	ne number i	n stock is :	#VALUE!	=DGET(B3	3:I19,H3,C6	4:F65)	
78									
79	_								
80	Example								
81	I his exam	ple uses the	e =I⊢() funct	ion to displa	ay a messa	ge when an	error occu	rs.	
82 83	Howmen	/ boxes of a	nortioular it	om do we h	avo in staa	12			
83	now many	y buxes of a	particular it	eni uo we i	lave in sloc	κ:			
	-			Life		1			
85		Product	Wattage	Hours	Brand				
86	1	Bulb	9999						
87									
88		Tł	ne number i	n stock is :	#VALUE!	=DGET(B3	3: <mark>I19,H3,C</mark> 8	5:F86)	
89									
90					Err:502				
91	=IF(ISER	R(F88),CHOO	SE(ERROR.TY	′PE(F88)/3,"N	o such produc	t.","Duplicates	products foun	d."),"One prod	luct found.")

DMAX

MAX		D	E	F	G	Н	I	J
					-	- 11		
		Life			Box	s the Datab	ase range. Value Of	
Product	Wattage	Hours	Brand	Unit Cost	Quantity	Boxes In Stock	Stock	
Bulb	200	3000	Horizon	£4.50	4	3	£54.00	
Neon	100	2000	Horizon	£2.00	15	2	£60.00	
Spot	60						£0.00	
Other Bulb	10 80	8000 1000	Sunbeam	£0.80	25	6 3	£120.00	
Spot	100	unknown	Horizon Horizon	£0.20 £1.25	40 10	3 4	£24.00 £50.00	
Spot	200	3000	Horizon	£2.50	15	0	£0.00	
Other	25	unknown	Sunbeam	£0.50	10	3	£15.00	
Bulb	200	3000	Sunbeam	£5.00	3	2	£30.00	
Neon	100	2000	Sunbeam	£1.80	20	5	£180.00	
Bulb	100	unknown	Sunbeam	£0.25	10	5	£12.50	
Bulb Bulb	10 60	800 1000	Horizon Sunbeam	£0.20 £0.15	25 25	0	£10.00 £0.00	
Bulb	80	1000	Sunbeam	£0.20	30	2	£12.00	
Bulb	100	2000	Horizon	£0.80	10	5	£40.00	
Bulb	40	1000	Horizon	£0.10	20	5	£10.00	
l o calculat	e largest Va	alue Of Sto	ck of a part	icular Brand	of bulb.			
			Brand	These two	colls aro th	e Criteria ra	nno	
Т	ype the bra	and name :	Horizon			Cinterna in	linge.	
)			4				
The MA	X value of H	Horizon is :	£60.00	=DMAX(B	3:I19,I3,E23	3:E24)		
What Does		o o lict of in	formation a	nd produce	o the lorge	t volue from	n a specified	oolumn
		5 & 1151 01 111	ionnation a		s the larges	a value non	r a specifieu	column.
Syntax								
=DMAX(Da	atabaseRan	ige,FieldNa	me,Criteria	Range)				
The Datab	aseRange	is the entire	e list of infor	mation you	need to eve	amina inclu	dina the	
field names				-	HEEU IU EAG	annie, inclu		
nora namo	o at the top		1115.			amme, meiu	5	
	-			lues to pick			-	tock" or l
The FieldN	lame is the	name or ce	ell, of the va	•	the Max fro		"Value Of S	tock" or I
The FieldN The Criteri	lame is the aRange is	name or ce made up of	ell, of the va two types of	of informatio	the Max fro	om, such as	"Value Of S	tock" or I
The FieldN The Criteri The first s	lame is the aRange is set of inforr	name or ce made up of nation is the	ell, of the va two types of a name, or i	of information names, of th	the Max fro on. ne Fields(s)	om, such as to be used	-	tock" or l
The FieldN The Criteri The first s for select	lame is the aRange is set of inforr ing the reco	name or ce made up of nation is the ords, such a	ell, of the va two types of a name, or p as the categ	of informatic names, of th gory Brand c	the Max fro on. ne Fields(s) or Wattage.	om, such as to be used	"Value Of S as the basis	
The FieldN The Criteri The first s for select The seco	lame is the aRange is set of inform ing the reco	name or ce made up of nation is the ords, such a formation is	ell, of the va two types of a name, or t as the categ the actual	of information names, of th gory Brand of record, or r	the Max fro on. ne Fields(s) or Wattage.	om, such as to be used	"Value Of S	
The FieldN The Criteri The first s for select The seco	lame is the aRange is set of inform ing the reco	name or ce made up of nation is the ords, such a	ell, of the va two types of a name, or t as the categ the actual	of information names, of th gory Brand of record, or r	the Max fro on. ne Fields(s) or Wattage.	om, such as to be used	"Value Of S as the basis	
The FieldN The Criteri The first s for select The seco as Horizo	lame is the aRange is set of inform ing the reco and set of in on as a bran	name or ce made up of nation is the ords, such a formation is nd name, or	ell, of the va two types of a name, or t as the categ the actual	of information names, of th gory Brand of record, or r	the Max fro on. ne Fields(s) or Wattage.	om, such as to be used	"Value Of S as the basis	
The FieldN The Criteri The first s for select The seco as Horizo	lame is the aRange is set of inform ing the reco and set of in on as a bran	name or ce made up of nation is the ords, such a formation is nd name, or	ell, of the va two types of a name, or t as the categ the actual	of information names, of th gory Brand of record, or r	the Max fro on. ne Fields(s) or Wattage.	om, such as to be used	"Value Of S as the basis	
The FieldN The Criteri The first s for select The seco as Horizo Formatting No special	lame is the aRange is set of inform ing the reco and set of in on as a bran	name or ce made up of nation is the ords, such a formation is nd name, or	ell, of the va two types of a name, or t as the categ the actual	of information names, of th gory Brand of record, or r	the Max fro on. ne Fields(s) or Wattage.	om, such as to be used	"Value Of S as the basis	
The FieldN The Criteri The first s for select The seco as Horizo	lame is the aRange is set of inform ing the reco and set of in on as a bran	name or ce made up of nation is the ords, such a formation is nd name, or	ell, of the va two types of a name, or t as the categ the actual	of information names, of th gory Brand of record, or r	the Max fro on. ne Fields(s) or Wattage.	om, such as to be used	"Value Of S as the basis	
The FieldN The Criteri The first s for select The seco as Horizo No special Examples	lame is the aRange is set of inform ing the reco and set of in on as a bran g formatting	name or ce made up of nation is the ords, such a formation is nd name, or is needed.	ell, of the va two types of a name, or t as the catego the actual 100 as the	of information names, of th gory Brand of record, or r	the Max fro on. he Fields(s) or Wattage. ecords, whi	om, such as to be used ich are to be	"Value Of S as the basis	
The FieldN The Criteri The first s for select The seco as Horizo No special Examples	lame is the aRange is set of inform ing the reco and set of in on as a bran g formatting	name or ce made up of nation is the ords, such a formation is nd name, or is needed.	ell, of the va two types of a name, or i as the catego the actual 100 as the particular	of information names, of th gory Brand of record, or r wattage. Product of	the Max fro on. he Fields(s) or Wattage. ecords, whi	om, such as to be used ich are to be	"Value Of S as the basis	
The FieldN The Criteri The first s for select The seco as Horizo No special Examples	lame is the aRange is set of inform ing the reco and set of in on as a bran g formatting	name or ce made up of nation is the ords, such a formation is nd name, or is needed.	ell, of the va two types of e name, or if as the catego s the actual 100 as the particular Product	of information names, of the gory Brand of record, or rewattage. Product of Brand	the Max fro on. he Fields(s) or Wattage. ecords, whi	om, such as to be used ich are to be	"Value Of S as the basis	
The FieldN The Criteri The first s for select The seco as Horizo Formatting No special Examples	lame is the aRange is set of inform ing the reco and set of in on as a bran g formatting	name or ce made up of nation is the ords, such a formation is nd name, or is needed.	ell, of the va two types of a name, or i as the catego the actual 100 as the particular	of information names, of th gory Brand of record, or r wattage. Product of	the Max fro on. he Fields(s) or Wattage. ecords, whi	om, such as to be used ich are to be	"Value Of S as the basis	
The FieldN The Criteri The first s for select The seco as Horizo No special Examples	lame is the aRange is set of inform ing the reco and set of in on as a bran formatting to Value Of	name or ce made up of nation is the ords, such a formation is nd name, or is needed.	ell, of the va two types of e name, or if as the catego s the actual 100 as the particular Product Bulb	of information names, of the gory Brand of record, or rewattage. Product of Brand Sunbeam	the Max fro on. The Fields(s) or Wattage. ecords, whi	om, such as to be used ich are to be	"Value Of S as the basis	
The FieldN The Criteri The first s for select The seco as Horizo No special Examples	lame is the aRange is set of inform ing the reco and set of in on as a bran formatting to Value Of	name or ce made up of nation is the ords, such a formation is nd name, or is needed.	ell, of the va two types of e name, or if as the catego s the actual 100 as the particular Product Bulb	of information names, of the gory Brand of record, or rewattage. Product of Brand Sunbeam	the Max fro on. he Fields(s) or Wattage. ecords, whi	om, such as to be used ich are to be	"Value Of S as the basis	
The FieldN The Criteri The first s for select The seco as Horizo Formatting No special Examples The larges	lame is the aRange is set of inform ing the reco and set of in on as a bran g formatting is t Value Of The larges	name or ce made up of nation is the ords, such a formation is nd name, or is needed. Stock of a	ell, of the va two types of e name, or h as the catego s the actual 100 as the particular Product Bulb	of information names, of the gory Brand of record, or rewattage. Product of Brand Sunbeam]=DMAX(B	the Max from the Fields(s) for Wattage. ecords, white a particula 3:119,13,E48	om, such as to be used ich are to be ar Brand. 9:F50)	"Value Of S as the basis	uch
The FieldN The Criteri The first s for select The seco as Horizo Formatting No special Examples The larges	lame is the aRange is set of inform ing the reco and set of in on as a bran g formatting is t Value Of The larges	name or ce made up of nation is the ords, such a formation is nd name, or is needed. Stock of a	ell, of the va two types of a name, or i as the catego the actual 100 as the particular Product Bulb £30.00 sing the na	of information names, of the gory Brand of record, or rewattage. Product of Brand Sunbeam]=DMAX(Band me "Value (the Max from the Fields(s) for Wattage. ecords, white a particula 3:119,13,E49 Df Stock'' in	om, such as to be used ich are to be ar Brand. 0:F50) stead of the	"Value Of S as the basis e selected, su	uch
The FieldN The Criteri The first s for select The seco as Horizo Formatting No special Examples The larges	lame is the aRange is set of inform ing the reco and set of in on as a bran g formatting is t Value Of The larges	name or ce made up of nation is the ords, such a formation is nd name, or is needed. Stock of a	ell, of the va two types of e name, or h as the catego s the actual 100 as the particular Product Bulb	of information names, of the gory Brand of record, or rewattage. Product of Brand Sunbeam]=DMAX(Band me "Value (the Max from the Fields(s) for Wattage. ecords, white a particula 3:119,13,E49 Df Stock'' in	om, such as to be used ich are to be ar Brand. 9:F50)	"Value Of S as the basis e selected, su	uch
The FieldN The Criteri The first s for select The seco as Horizo Formatting No special Examples The larges	lame is the aRange is set of inform ing the reco and set of in on as a bran g formatting is t Value Of The larges	name or ce made up of nation is the ords, such a formation is nd name, or is needed. Stock of a	ell, of the va two types of a name, or i as the catego the actual 100 as the particular Product Bulb £30.00 sing the na	of information names, of the gory Brand of record, or rewattage. Product of Brand Sunbeam]=DMAX(Band me "Value (the Max from the Fields(s) for Wattage. ecords, white a particula 3:119,13,E49 Df Stock'' in	om, such as to be used ich are to be ar Brand. 0:F50) stead of the	"Value Of S as the basis e selected, su	uch

173Fu	73FuntionsofExcel.xls at 04/20/2015					DMAX			Page 53 of 195				
	Α	В	С	D	E	F	G	Н	I	J	К		
61		Bulb 100											
62						_	•						
63		The large	est Value O	f Stock is :	£40.00	=DMAX(B	3:119,"Valu	e Of Stock",	E60:F61)				
64						_							
65		The larges	st Value Of	Stock of a	Bulb less	than a part	icular Wat	tage.					
66													
67					Product	Wattage							
68					Bulb	<100							
69													
70	70 The largest Value Of Stock is : £24.00 =DMAX(B3:I19,"Value Of Stock",E67:F68)												

DMIN

	В	6			F	6			1	
_		С	D	E	F	G	H	I	J	
IV	IIN									
			1.1.1.				s the Datab			
	Product	Wattage	Life Hours	Brand	Unit Cost	Box Quantity	Boxes In Stock	Value Of Stock		
┣	Bulb	200	3000	Horizon	£4.50	4	3	£54.00		
┢	Neon	100	2000	Horizon	£2.00	15	2	£60.00		
F	Spot	60						£0.00		
	Other	10	8000	Sunbeam	£0.80	25	6	£120.00		
	Bulb	80	1000	Horizon	£0.20	40	3	£24.00		
L	Spot	100	unknown	Horizon	£1.25	10	4	£50.00		
┡	Spot	200 25	3000	Horizon	£2.50	15	1	£37.50		
┝	Other Bulb	200	unknown 3000	Sunbeam Sunbeam	£0.50 £5.00	10 3	3	£15.00 £30.00		
┢	Neon	100	2000	Sunbeam	£1.80	20	5	£180.00		
F	Bulb	100	unknown	Sunbeam	£0.25	10	5	£12.50		
	Bulb	10	800	Horizon	£0.20	25	2	£10.00		
	Bulb	60	1000	Sunbeam	£0.15	25	1	£3.75		
	Bulb	80	1000	Sunbeam	£0.20	30	2	£12.00		
	Bulb	100	2000	Horizon	£0.80	10	5	£40.00		
L	Bulb	40	1000	Horizon	£0.10	20	5	£10.00		
т	o calculat	e lowest Va	alue Of Stor	k of a narti	cular Brand	of bulb				
Ċ	o oaloulai			n or a para	oulai Brana					
				Brand	These two	cells are th	e Criteria ra	ange.		
	Т	Type the bra	and name :	Horizon						
	The MI	N value of H	Horizon is :	£10.00	=DMIN(B3	:I19,I3,E23	:E24)			
	Vhat Does									
			s a list of in	formation a	nd produce	s smallest v	value from a	a specified co	olumn	•
Ċ				ionnation a		o onnancor v		copeonieu o	oranni.	
S	Syntax									
=	DMIN(Dat	tabaseRan	ge,FieldNar	ne,CriteriaF	Range)					
т	he Datab a	aseRange	is the entire	list of infor	mation you	need to exa	amine, inclu	iding the		
			of the colur				·	0		
т	he Field N	lame is the	name or c	ell of the v	alues to nicl	the Min fro	om such as	s "Value Of S	Stock" or	
					-		Jin, Such as		JUCK OI	
I					of informatic		to be used	aa tha haaid		
					jory Brand o			as the basis	6	
		•		-		•				
						ecords, whi	ich are to be	e selected, s	such	
	as Hurizo	n as a brar	nd name, or	TOO as the	wallage.					
F	ormatting	a								
		formatting i	is needed.							•
	·	5								
E	xamples									
_			0							
1	ne lowes	i value Of	SIUCK OF A	particular	Product of	a particula	u Brand.			
				Product	Brand					
				Bulb	sunbeam					
						1				
		The lowes	st value is :	£3.75	=DMIN(B3	:I19,I3,E49	:F50)			
т	his is the				•			a coll addrea	c	
I	nis is the	same calcu	nation Dut U	sing the ha	nie value(JI SLUCK IN	รเซลน บา เกิย	e cell addres	5.	
£3.75 =DMIN(B3:I19,"Value Of Stock",E49:F50)										
- т	he lowes	t Value Of	Stock of a	Bulb equa	l to a partic	ular Watta	ge.			-
				-			-			
				Product	Wattage					

173Fu	intic	onsofExcel.	xls at 04/20	/2015	DMIN			Page 55 of 195			
	Α	В	С	D	E	F	G	Н	I	J	К
61		Bulb 100									
62						_					
63		The low	est Value O	f Stock is :	£12.50	=DMIN(B3	:I19,"Value	Of Stock",I	E60:F61)		
64						-					
65		The lowes	t Value Of	Stock of a	Bulb betwe	een two Wa	attage valu	es.			
66											
67					Product	Wattage	Wattage				
68		Bulb >=80 <=100									
69											
70	The lowest Value Of Stock is : £12.00 =DMIN(B3:I19,"Value Of Stock",E67:G68)										

	A	В	С	D	E	F	G	Н		J
1		_	C	D		•	0	11	I	5
	DOL	LAR								
2										
3			Original Number	Converted To Text						
4			10	\$10.00	=DOLLAR	(C4)				
5			10	\$10	=DOLLAR	(C5,0)				
6			10	\$10.0	=DOLLAR	(C6,1)				
7			10	\$10.00	=DOLLAR	(C7,2)				
8			10.25	\$10.25	=DOLLAR	· · ·				
9			10.25	\$10	=DOLLAR	· · · ·				
10			10.25	\$10.3	=DOLLAR					
11			10.25	\$10.25	=DOLLAR	(C11,2)				
12										
13		/hat Doe				-				
14	Т	his function	on converts a	number into a	a piece of te	ext formattee	d as currend	cy.		
15	_									
16		yntax								
17			(Number,Dec	,						
18			This is the nu							
19		DecimalPl	aces : This is	the amount o	t decimal pl	aces neede	ed in the cor	nverted nur	mber.	
20	_									
21		ormattin								
22	4	•	formatting is I							
23	Т	ne result	will be shown	as a text entr	у.					

DSUM

	А	В	С	D	E	F	G	Н	I 1	J	
1		SUM	C	D	<u> </u>	I	0		I		
2							This i	s the Datab	ase range.		
				Life			Box	Boxes In			
3		Product	Wattage	Hours	Brand	Unit Cost		Stock	Stock		
4		Bulb	200	3000	Horizon	£4.50	4	3	£54.00		
5		Neon	100	2000	Horizon	£2.00	15	2	£60.00		
6		Spot	60						£0.00		
7		Other	10	8000	Sunbeam	£0.80	25	6	£120.00		
8		Bulb	80	1000	Horizon	£0.20	40	3	£24.00		
9		Spot	100	unknown	Horizon	£1.25	10	4	£50.00		
10		Spot	200	3000	Horizon	£2.50	15	0	£0.00		
11		Other	25	unknown	Sunbeam	£0.50	10 3	3 2	£15.00		
12 13		Bulb Neon	200 100	3000 2000	Sunbeam Sunbeam	£5.00 £1.80	20	5	£30.00 £180.00		
13		Bulb	100	unknown	Sunbeam	£0.25	10	5	£12.50		
15		Bulb	10	800	Horizon	£0.20	25	2	£10.00		
16		Bulb	60	1000	Sunbeam	£0.15	25	0	£0.00		
17		Bulb	80	1000	Sunbeam	£0.20	30	2	£12.00		
18		Bulb	100	2000	Horizon	£0.80	10	5	£40.00		
19		Bulb	40	1000	Horizon	£0.10	20	5	£10.00		
20											
21		To calculate	e the total V	/alue Of Sto	ock of a par	ticular Bran	d of bulb.				
22											
23		_			Brand	These two	cells are the	e Criteria ra	ange.		
24		Т	ype the bra	and name :	Horizon						
25			lessalisa af l	levinere ie r	CO 40 00						
26		The stoc	k value of F	iorizon is :	£248.00	=DSOM(B	3:I19,I3,E23	3:E24)			
27 28		What Does									
20				s a list of in	formation a	nd produce:	s the total				
30					ionnation a						
31		Syntax									
32			atabaseRan	ge,FieldNa	me,Criteria	Range)					
33		The Datab	acoDango i	s the entire	list of infor	mation you	need to ev	mino inclu	iding the		
34			s at the top			mation you		annine, inclu			
35		The FieldN	lame is the	name, or c	ell, of the va	alues to be t	totalled, suc	h as "Value	e Of Stock"	or 13.	
36		The Criteri	aRange is	made up of	two types of	of informatio	on.				
37			-	•				to be used	as the basis	S	
38		for select	ing the reco	ords, such a	as the categ	ory Brand c	or Wattage.				
39		The seco	nd set of in	formation is	s the actual	record or re	ecords whi	ch are to he	e selected, s	such	
40			on as a brar				222.00, 1011				
41				, -,							
42		Formatting									
43		No special	formatting i	s needed.							
44											
45		Examples									
46											
47	The total Value Of Stock of a particular Product of a particular Brand.										
48	Droduct Brand										
49 50					Product Bulb	Brand					
50					Bulb	sunbeam					
51			Total stock	k value is :	£54.50	=DSUM(B	3:I19,I3,E49):E50)			
53			10101 51001		204.00		5.1±0,10,∟+0				
54	This is the same calculation but using the name "Value Of Stock" instead of the cell address.										
55					3						
L											

DSUM

	А	В	С	D	E	F	G	Н	I	J
56					£54.50	=DSUM(B	3:I19,"Valu	e Of Stock"	E49:F50)	
57										
58	-	The total \	/alue Of St	ock of a B	ulb equal to	o a particul	ar Wattage) .		
59										
60					Product	Wattage				
61					Bulb	100				
62						-				
63		Тс	otal Value O	f Stock is :	£52.50	=DSUM(B	3:119,"Valu	e Of Stock",	,E60:F61)	
64	_									
65		The total \	/alue Of St	ock of a B	ulb less tha	an a particu	lar Wattag	je.		
66	1						1			
67					Product	Wattage				
68					Bulb	<100				
69						-				
70		Тс	otal Value O	f Stock is :	£56.00	=DSUM(B	3:119,"Valu	e Of Stock"	,E67:F68)	

EAST

	А	В	С	D	E	F	G	Н	I	J		
1	Eastern data.											
2	Used by th	e example	for the =INI	DIRECT() f	unction.							
3												
4		-	Jan	Feb	Mar	Total						
5		Alan	1000	2000	3000	6000						
6		Bob	4000	5000	6000	15000						
7		Carol	7000	8000	9000	24000						
8		Total	12000	15000	18000	45000						

EDATE

			ut 04/20/2010			~	00 01 100
	А	В	С	D	E	F	G
1	ED	ATE					
2							
3			Start Date	Plus Months	End Date		
4			1-Jan-98	3	1-Apr-98	=EDATE(C4,D4)	
5			2-Jan-98	3	2-Apr-98	=EDATE(C5,D5)	
6			2-Jan-98	-3	2-Oct-97	=EDATE(C6,D6)	
7							
8		What Does It					
9			is used to calcula	ate a date whic	ch is a specific numbe	er of months in the pa	ist or
10	11	n the future.					
11		Suntox					
12		Syntax	rtDate,Months)				
13 14	-	-EDATE(Sia	indate, wonths)				
15		ormatting					
16			l normally he exr	ressed as a n	umber this can be fo	rmatted to represent	
17			ng the Format,Ce			initiation to represent	
18	U		.g allo i oliliat,00				
19	E	Example					
20			was used by a c	ompany hiring	contract staff.		
21			-		of the employment.		
22		he Start date					
23	Т	he contract l	Duration is enter	ed as months.			
24	Т	he =EDATE	() function has be	een used to ca	Iculate the end of the	e contract.	
25		_					
26			Start	Duration	End		
27			Tue 06-Jan-98	3		=EDATE(C27,D27)	
28			Mon 12-Jan-98	3		=EDATE(C28,D28)	
29			Fri 09-Jan-98	4		=EDATE(C29,D29)	
30			Fri 09-Jan-98	3		=EDATE(C30,D30)	
31			Mon 19-Jan-98	3		=EDATE(C31,D31)	
32			Mon 26-Jan-98	3		=EDATE(C32,D32)	
33		I	Mon 12-Jan-98	3	Sun 12-Apr-98	=EDATE(C33,D33)	
34 35							
36	т	he company	decide not to en	d contracts on	Saturday or Sunday	,	
37						veekday number of th	e end date
38						ed from the =EDATE()	
39			d of contract falls		,,		
40							
41		I	Start	Duration	End		
42			Tue 06-Jan-98	3	Mon 06-Apr-98		
43			Mon 12-Jan-98	3	Fri 10-Apr-98		
44			Fri 09-Jan-98	4	Fri 08-May-98		
45			Fri 09-Jan-98	3	Thu 09-Apr-98		
46			Mon 19-Jan-98	3	Fri 17-Apr-98		
47			Mon 26-Jan-98		Fri 24-Apr-98		
48			Mon 12-Jan-98	3	Fri 10-Apr-98		
49							
50	:	=EDATE(C48	3,D48)-IF(WEEK	DAY(EDATE(C	C48,D48),2)>5,WEEK	(DAY(EDATE(C48,D4	8),2)-5,0)

	A B	C	D	E	F	G
1	EOMONTI	Η				
2						
3		StartDate	Plus Months	End Of Month		
4		5-Jan-98	2	35885	=EOMONTH(C4,D4)	
5		5-Jan-98	2	31-Mar-98	=EOMONTH(C5,D5)	
6		5-Jan-98	-2	30-Nov-97	=EOMONTH(C6,D6)	
7		-				
8	What Does	s It Do?				
9	This function	on will show the	e last day of the mo	nth which is a sp	ecified number of montl	ns
10	before or a	fter a given da	te.			
11						
12	Syntax					
13	=EOMON	TH(StartDate,N	/lonths)			
14						
15	Formatting					
16	The result v	will normally be	e expressed as a nu	imber, this can b	e formatted to represen	t
17	a date by u	ising the Form	at,Cells,Number,Dat	te command.		

ERROR.TYPE

	A B	С	D	E	F	G	Н
1	ERROR.T	YPE					
2							
3		Da	ata	The Error	Error Type		
4		10	0	#DIV/0!	532	=ERROR.TYPE(E4)	
5		10	3	Err:508	508	=ERROR.TYPE(E5)	
6		10	3	#VALUE!	519	=ERROR.TYPE(E6)	
7		10:00	13:00	21:00	#N/A	=ERROR.TYPE(E7)	
8							
9							
10	What Doe						
11	I his functi	on will show	a number	which corresponds	to an error produ	ced by a formula.	
12	Curatavi						
13	Syntax		-)				
14 15		TYPE(Error	,	the error occurred	1		
15					I.		
17	Formattin	a					
18			atted as a r	ormal number.			
19	ine result						
20	Example						
21		ple 4 in the	=DGET() fu	nction.			
	1	•					

EVEN

	A B	С	D	E	F	G	Н
1	EVEN						
2							
3	_	Original Value	Evenly Rounded				
4	_	1	2	=EVEN(C4)			
5	_	1.2	2	=EVEN(C5)			
6 7	-	2.3 25	<u>4</u> 26	=EVEN(C6) =EVEN(C7)			
8	_	25	20				
9	What Doe	s It Do ?					
10	This function	on round a numb	per up the nearest ev	en whole numb	er.		
11			-				
12	Syntax						
13	=EVEN(Nı	ımber)					
14	– – – – – – – – – – – – – – – – – – –						
15	Formattin	g formatting is ne	adad				
16 17		iormaturiy is ne	eueu.				
18	Example						
19		ng table is used	by a garage which re	epairs cars.			
20			eet of cars from three				
21	Each man	ufacturer uses a	different type of wind	screen wiper wh	nich are on	ly supplied i	in pairs.
22							
23			the number of wipers		ch type of c	ar	
24	and then s	how how many p	pairs need to be orde	red.			
25	_	Table 1					
26	_	Car	Wipers To Order	Pairs to Order			
	-	Vauxhall	5	3	=EVEN(D	28)/2	
27 28		VaaAnaan					
27 28 29	_	Ford	9	5	=EVEN(D	29112	

	A B	С	D	E	F	G	Н	I	J
1	EXACT								
2									
3		Text1	Text2	Result					
4		Hello	Hello	TRUE	=EXACT(C	C4,D4)			
5		Hello	hello	FALSE	=EXACT(C				
6		Hello	Goodbye	FALSE	=EXACT(C	C6,D6)			
7									
8	What Does								
9			s two items						
10			cters is take						
11	which have	e upper and	lower case	characters	in the same	e position v	/ill be consi	idered as e	qual.
12									
13	Syntax								
14		Fext1,Text2	,						
15	Only two it	tems of text	can be con	npared.					
16		-							
17	Formatting								
18			are exactly						
19	ii there is a	iny difference	ce in the two		ext the resul		will be sho	JWII.	
20	Example								
21 22	Example	imple pace	word checki	na formula					
22			e correct pas						
23		•	ame of a co		red blue or	aroon			
24			ord is impo			gieen.			
25		•	n is used to		r alless				
27				Uncon your	guess.				
28		Guess the	oassword ·	red	1				
29			it correct :	No					
30		10			1				
31	(To stop vo	ou from che	ating, the co	prrect pass	word has be	en entered	as a series	s of =CHAR	80
32			ne ANSI nur						v
33		easy thou						, , , , , ,	
			<i>,</i>						

FACT

	A B	C	D	E	F	G	Н
1	FACT						
2							
3		Number	Factorial				
4		3	6	=FACT(C4)			
5		3.5	6	=FACT(C5)			
6		5	120	=FACT(C6)			
7		10	3,628,800	=FACT(C7)			
8		20	2,432,902,008,176,640,000	=FACT(C8)			
9							
10	What Does						
11	-		s the factorial of a number.				
12			ted as 1*2*3*4etc.				
13	4		culated as 1*2*3*4*5, which re	sults in 120.			
14	Decimal fra	actions of th	e number are ignored.				
15							
16	Syntax						
17	=FACT(Nu	mber)					
18	–						
19	Formatting						
20	No special	formatting i	s needed.				

FIND

	A	В	С	D	E	F	G				
1	FIN	D									
2											
3	1		Text	Letter To Find	Position Of Letter						
4			Hello	е	2	=FIND(D4,C4)					
5			Hello	Н	1	=FIND(D5,C5)					
6			Hello	0	5	=FIND(D6,C6)					
7]		Alan Williams	a	3	=FIND(D7,C7)					
8]		Alan Williams	a	11	=FIND(D8,C8,6)					
9			Alan Williams	Т	#VALUE!	=FIND(D9,C9)					
10						-					
11	_	hat Does									
12	-				e another piece of te	kt.					
13	-			position is shown							
14	-				o the letter, the first o						
15	-		•		search at a specific p	point in the text, thu	IS				
16				uplicate occurrer							
17	l If	the letter	is not found in th	e text, the result #	VALUE is shown.						
18											
19		yntax									
20				xtToLookInside,S							
21	-			ls to be a single o							
22	-			•	be searched throug						
23	∣ St	tartPositio	on : This is option	al, it specifies at	which point in the tex	t the search should	d begin.				
24											
25		ormatting									
26	N	o special	formatting is nee	ded, the result wi	ll be shown as a nun	nber.					

FIXED

	A B	С	D	E	F	G	Н	I		J
1	FIXED									
2		_		_						
3		Original Number	Converted To Text							
4		10	10.00	=FIXED(C						
5		10	10	=FIXED(C						
6		10	10.0	=FIXED(C						
7		10	10.00	=FIXED(C						
8		10.25	10.25	=FIXED(C						
9		10.25	10	=FIXED(C						
10		10.25	10.3	=FIXED(C						
11		10.25	10.25	=FIXED(C						
12		1000	1,000.00	=FIXED(C						
13		1000.23	1,000	=FIXED(C						
14		1000.23	1000	=FIXED(C	14,0,TRUE)				
15	_									
16	What Does									
17		on converts			-					
18	-	conversion			ded to a sp	ecific numb	er of decin	nal place	es,	
19	and comm	as can be ir	iserted at th	ne 1,000's.						
20	Cumtour									
21	Syntax	umborToCo	nuart Daain		'ommoo)					
22		umberToCo	,	,	,	00011700				
23		Places place	•				~~~~			
24		has option c					minas.			
25		mas is not s	pecilieu the		iii assume	IRUE.				
26	Formatting	a								
27			c noodod							
28		formatting i		ith the Form	nat Calla	lumbor con	amond will	not ho	0.000	offoot
29	Note that a	iny further fo	ormatting W	in the Forr	nat, Cells, ľ	noo reamur	imand WII	not nav	e any	errect.

	A B	С	D	E	F	G	Н	I
1	FLOOR							
2								1
3		Number	Rounded Down					
4		1.5	1	=FLOOR(C4,1)				
5		2.3	2	=FLOOR(C5,1)				
6		2.9	2	=FLOOR(C6,1)				
7		123	100	=FLOOR(C7,50)				
8		145	100	=FLOOR(C8,50)				
9		175	150	=FLOOR(C9,50)				
10		- H D - 0						
11	What Does		value down to th	e nearest multiple s	posified by the	HOOF		
12 13		on rounus a	value down to th	e nearest multiple s	becilied by the	user.		
13	Syntax							
15		lumberToR	ound,Significant\	(alue)				
16			ound,orgrinicant	luci				
17	Formatting	a						
18		formatting i	s needed.					
19		5						
20	Example							
21	The followi	ng table wa	s used to calcula	te commission for m	embers of a sa	ales team.		
22	Commissio	on is only pa	id for every £100	0 of sales.				
23				to round down the A		the		
24	nearest 10	00, which is	then used as the	e basis for Commiss	on.			
25								
26		Name	Actual Sales	Relevant Sales	Commission			
27		Alan	£23,500	£23,000	£230			
28		Bob	£56,890	£56,000	£560			
29		Carol	£18,125	£18,000	£180			
30				=FLOOR(D29,1000)				

	A B	С	D	E	F	G	Н	I
1	FORECAS	ST						
2						-		
3				Month	Sales			
4				1	£1,000			
5				2	£2,000			
6				3	£2,500			
7				4	£3,500			
8				5	£3,800			
9				6	£4,000			
10	Turner			10	l			
11	Type	he month num		12				
12		i ne ⊢orecast s	ales figure is :	£7,997	=FORECA	ST(E11,F4	I:F9,E4:E9)	
13	What Dee							
14	What Does		to of voluce to r	radiat a aingle	voluo			
15 16			ts of values to p sed on the relat			original cot	c of volues	
10			ures for months					
18			igure will be in			can use ine		
19			diction is calcula			sumption o	of a Linear T	rend
20	The way in	i which the pret		aleu 13 baseu	upon the as	sumption c		Teriu.
20	Syntax							
22		ST(ItemToFore	Cast,RangeY,I	SandeX)				
23			nt in the future,		which you n	eed the for	ecast	
24			es which contai					
25	•	cast, such as S					e saele	
26			sed when recor	dina the histor	ical data. s	uch as Mor	hth number.	
27				J	, -			
28	Formattin	g						
29		formatting is n	eeded.					
30		-						
31	Example							
32			sed by a compa					
33			e of the previou		a period of	three years	s were enter	ed.
34			s team is entere					
35		0	on is used to ca	alculate the pr	edicted per	formance fo	or the new s	ales
36	team base	d upon a linear	trend.					
37								
38			Size Of	Known				
		Year	Sales Team	Performance				
39		1996	10	£5,000				
40		1997	20	£8,000				
41		1998	30	£8,500				
42				40	I			
43		Size Of The Nev		40			0.541 500	D (1)
44	Estimat	ed Forecast Of	Performance :	£10,667	=FORECA	ST(E43,E3	89:E41,D39:	D41)

FREQUENCY

A								
	В	C	D	E	F	G	Н	I
FREQ	UENC	Ϋ́						
			lan	F a la	Mari			
	ſ	North	Jan £5,000	Feb £6,000	Mar £4,500			
	ł	South	£5,800	£0,000 £7,000	£3,000			
		East	£3,500	£2,000	£10,000			
		West	£12,000	£4,000	£6,000			
						-		
			00 and below.	£4,000	4		ENCY(D4:F	
_	Sales a		up to £6,000	£6,000	5		ENCY(D4:F	· · · · · · · · · · · · · · · · · · ·
		Sales a	bove £6,000	£999,999	3	{=FREQU	ENCY(D4:F	7,E9:E11)}
Wha	t Does It	Do?						
			ange of data	against a lis	st of interva	ls.		
			ly items in the				ervals.	
The f	unction is	s entered in t	he cells as an	n array, that	is why it is	enclosed in	{ } braces.	
Synt		V(DanaaOfD	ata LictOflata	vrvale)				
		T (RangeOfD	ata,ListOfInte	iivais)				
 Form	natting							
	<u> </u>	matting is ne	eded.					
		-						
	nple 1				-			
			used to record					
	-		tion was then fied intervals.	used to cal	culate the h	iumber of ci	nildren whos	se
		etween speci	neu intervais.					
	1	Weight Kg				Number C	Of Children:	
C	hild 1	20.47				Deterre		
		20.47				Betwee	n 0 - 15 Kg	2
	hild 2	22.83		Above	15 but less	than or equ	al to 20 Kg	4
С	hild 2 hild 3	22.83 15.74		Above		than or equ A	al to 20 Kg bove 20 Kg	4 3
C	hild 2 hild 3 hild 4	22.83 15.74 10.80		Above		than or equ A {=FREQUE	al to 20 Kg bove 20 Kg NCY(C30:C	4 3 38,C41:C43)
C C C	hild 2 hild 3 hild 4 hild 5	22.83 15.74 10.80 8.28		Above		than or equ A {=FREQUE {=FREQUE	al to 20 Kg bove 20 Kg NCY(C30:C	4 3 C38,C41:C43) C38,C41:C43)
C C C	hild 2 hild 3 hild 4 hild 5 hild 6	22.83 15.74 10.80 8.28 20.66		Above		than or equ A {=FREQUE {=FREQUE	al to 20 Kg bove 20 Kg NCY(C30:C	4 3 38,C41:C43) 38,C41:C43)
	hild 2 hild 3 hild 4 hild 5	22.83 15.74 10.80 8.28		Above		than or equ A {=FREQUE {=FREQUE	al to 20 Kg bove 20 Kg NCY(C30:C	4 3 C38,C41:C43) C38,C41:C43)
	hild 2 hild 3 hild 4 hild 5 hild 6 hild 7	22.83 15.74 10.80 8.28 20.66 17.36		Above		than or equ A {=FREQUE {=FREQUE	al to 20 Kg bove 20 Kg NCY(C30:C	4 3 38,C41:C43) 38,C41:C43)
	hild 2 hild 3 hild 4 hild 5 hild 6 hild 6 hild 7 hild 8 hild 9	22.83 15.74 10.80 8.28 20.66 17.36 16.67 18.01		Above		than or equ A {=FREQUE {=FREQUE	al to 20 Kg bove 20 Kg NCY(C30:C	4 3 C38,C41:C43) C38,C41:C43)
	hild 2 hild 3 hild 4 hild 5 hild 6 hild 6 hild 7 hild 8 hild 9	22.83 15.74 10.80 8.28 20.66 17.36 16.67 18.01 ight Intervals		Above		than or equ A {=FREQUE {=FREQUE	al to 20 Kg bove 20 Kg NCY(C30:C	4 3 C38,C41:C43) C38,C41:C43)
	hild 2 hild 3 hild 4 hild 5 hild 6 hild 6 hild 7 hild 8 hild 9	22.83 15.74 10.80 8.28 20.66 17.36 16.67 18.01 ight Intervals 15		Above		than or equ A {=FREQUE {=FREQUE	al to 20 Kg bove 20 Kg NCY(C30:C	4 3 C38,C41:C43) C38,C41:C43)
	hild 2 hild 3 hild 4 hild 5 hild 6 hild 6 hild 7 hild 8 hild 9	22.83 15.74 10.80 8.28 20.66 17.36 16.67 18.01 ight Intervals 15 20		Above		than or equ A {=FREQUE {=FREQUE	al to 20 Kg bove 20 Kg NCY(C30:C	4 3 C38,C41:C43) C38,C41:C43)
	hild 2 hild 3 hild 4 hild 5 hild 6 hild 6 hild 7 hild 8 hild 9	22.83 15.74 10.80 8.28 20.66 17.36 16.67 18.01 ight Intervals 15		Above		than or equ A {=FREQUE {=FREQUE	al to 20 Kg bove 20 Kg NCY(C30:C	4 3 C38,C41:C43) C38,C41:C43)
	hild 2 hild 3 hild 4 hild 5 hild 6 hild 7 hild 8 hild 9	22.83 15.74 10.80 8.28 20.66 17.36 16.67 18.01 ight Intervals 15 20		Above		than or equ A {=FREQUE {=FREQUE	al to 20 Kg bove 20 Kg NCY(C30:C	4 3 38,C41:C43) 38,C41:C43)
	hild 2 hild 3 hild 4 hild 5 hild 6 hild 7 hild 8 hild 9 Kg We	22.83 15.74 10.80 8.28 20.66 17.36 16.67 18.01 ight Intervals 15 20 100				than or equ A {=FREQUE {=FREQUE	al to 20 Kg bove 20 Kg NCY(C30:C	4 3 38,C41:C43) 38,C41:C43)
	hild 2 hild 3 hild 4 hild 5 hild 6 hild 7 hild 8 hild 9 Kg We Kg We	22.83 15.74 10.80 8.28 20.66 17.36 16.67 18.01 ight Intervals 15 20 100 uses charact	ters instead of	f values.		than or equ A {=FREQUE {=FREQUE {=FREQUE	al to 20 Kg bove 20 Kg NCY(C30:C NCY(C30:C NCY(C30:C	4 3 C38,C41:C43) C38,C41:C43)
Exam This A res	hild 2 hild 3 hild 4 hild 5 hild 6 hild 7 hild 8 hild 9 Kg We Kg We	22.83 15.74 10.80 8.28 20.66 17.36 16.67 18.01 ight Intervals 15 20 100 uses charact	ters instead of customers fo	f values. r their rating	g of the food	than or equ A {=FREQUE {=FREQUE {=FREQUE	al to 20 Kg bove 20 Kg NCY(C30:C NCY(C30:C NCY(C30:C	4 3 C38,C41:C43) C38,C41:C43)
Exam This A res The r	hild 2 hild 3 hild 4 hild 5 hild 6 hild 7 hild 8 hild 9 Kg We Kg We staurant h ratings wo	22.83 15.74 10.80 8.28 20.66 17.36 16.67 18.01 ight Intervals 15 20 100 uses charact nas asked 40 ere entered in	ters instead of customers fo nto a table as	f values. r their rating a single let	g of the food ter, E, V, A,	than or equ A {=FREQUE {=FREQUE {=FREQUE d in the rest , P or D.	al to 20 Kg bove 20 Kg NCY(C30:C NCY(C30:C NCY(C30:C	4 3 C38,C41:C43) C38,C41:C43)
Exam This A res The r The r	hild 2 hild 3 hild 4 hild 5 hild 6 hild 7 hild 8 hild 9 Kg We Kg We staurant h ratings wo manager	22.83 15.74 10.80 8.28 20.66 17.36 16.67 18.01 ight Intervals 15 20 100 uses charact nas asked 40 ere entered in now wants to	ters instead of customers fo nto a table as o calculate hor	f values. r their rating a single let w many res	g of the food ter, E, V, A, ponses fell	than or equ A {=FREQUE {=FREQUE {=FREQUE {=FREQUE d in the rest , P or D. into each c	al to 20 Kg bove 20 Kg NCY(C30:C NCY(C30:C NCY(C30:C NCY(C30:C aurant.	4 3 38,C41:C43) 38,C41:C43)
Exan Cl Cl Cl Cl Cl Cl Cl Cl Cl Cl Cl Cl Cl	hild 2 hild 3 hild 4 hild 5 hild 6 hild 7 hild 8 hild 9 Kg We Kg We staurant h ratings wo manager	22.83 15.74 10.80 8.28 20.66 17.36 16.67 18.01 ight Intervals 15 20 100 uses charact has asked 40 ere entered in now wants to , the =FREQU	ters instead of customers fo nto a table as	f values. r their rating a single let w many res	g of the food ter, E, V, A, ponses fell	than or equ A {=FREQUE {=FREQUE {=FREQUE {=FREQUE d in the rest , P or D. into each c	al to 20 Kg bove 20 Kg NCY(C30:C NCY(C30:C NCY(C30:C NCY(C30:C aurant.	4 3 38,C41:C43) 38,C41:C43)
Exan Cl Cl Cl Cl Cl Cl Cl Cl Cl Cl Cl Cl Cl	hild 2 hild 3 hild 4 hild 5 hild 6 hild 7 hild 8 hild 9 Kg We Kg We staurant h ratings we manager rtunately,	22.83 15.74 10.80 8.28 20.66 17.36 16.67 18.01 ight Intervals 15 20 100 uses charact has asked 40 ere entered in now wants to , the =FREQU	ters instead of customers fo nto a table as o calculate hor	f values. r their rating a single let w many res	g of the food ter, E, V, A, ponses fell	than or equ A {=FREQUE {=FREQUE {=FREQUE {=FREQUE d in the rest , P or D. into each c	al to 20 Kg bove 20 Kg NCY(C30:C NCY(C30:C NCY(C30:C NCY(C30:C aurant.	4 3 38,C41:C43) 38,C41:C43)
Exam Cl Cl Cl Cl Cl Cl Cl Cl Cl Cl Cl Cl Cl	hild 2 hild 3 hild 4 hild 5 hild 6 hild 7 hild 8 hild 9 Kg We Kg We kt We kt we kt we manager rtunately, kt be calc	22.83 15.74 10.80 8.28 20.66 17.36 16.67 18.01 ight Intervals 15 20 100 uses charact as asked 40 ere entered in now wants to the =FREQU sulated? is to use the =	ters instead of customers fo nto a table as calculate ho JENCY() func CODE() and =	f values. r their rating a single let w many res tion ignores =UPPER() f	g of the food ter, E, V, A, ponses fell s text entrie unctions.	than or equ A {=FREQUE {=FREQUE {=FREQUE {=FREQUE (=FREQUE (=FREQUE) (=FREQU	al to 20 Kg bove 20 Kg NCY(C30:C NCY(C30:C NCY(C30:C aurant. ategory. an the frequ	4 3 38,C41:C43) 38,C41:C43)
Exam Cl Cl Cl Cl Cl Cl Cl Cl Cl Cl Cl Cl Cl	hild 2 hild 3 hild 4 hild 5 hild 6 hild 7 hild 8 hild 9 Kg We Kg We Kg We Example staurant h ratings we manager rtunately, kt be calc	22.83 15.74 10.80 8.28 20.66 17.36 16.67 18.01 ight Intervals 15 20 100 uses charact as asked 40 ere entered in now wants to the =FREQU culated? is to use the = () forces all th	ters instead of customers fo nto a table as calculate hor JENCY() func CODE() and = ne text entries	f values. r their rating a single let w many res tion ignores =UPPER() f	g of the food ter, E, V, A, ponses fell s text entrie unctions. idered as ca	than or equ A [=FREQUE {=FREQUE {=FREQUE {=FREQUE d in the rest , P or D. into each c s, so how c	al to 20 Kg bove 20 Kg NCY(C30:C NCY(C30:C NCY(C30:C NCY(C30:C aurant. ategory. an the frequ	4 3 38,C41:C43) 38,C41:C43)
Exan C C C C C C C C C C C C C C C C C C C	hild 2 hild 3 hild 4 hild 5 hild 6 hild 7 hild 8 hild 9 Kg We Kg W	22.83 15.74 10.80 8.28 20.66 17.36 16.67 18.01 ight Intervals 15 20 100 uses charact as asked 40 ere entered in now wants to , the =FREQU sulated? is to use the = () forces all th function calc	ters instead of customers fo nto a table as calculate ho JENCY() func CODE() and = ne text entries culates the un	f values. r their rating a single let w many res tion ignores =UPPER() f to be cons ique ANSI o	g of the food ter, E, V, A, ponses fell s text entrie unctions. idered as ca code for eac	than or equ A [=FREQUE {=FREQUE {=FREQUE {=FREQUE (=FREQUE (=FREQUE) (=FREQU	al to 20 Kg bove 20 Kg NCY(C30:C NCY(C30:C NCY(C30:C NCY(C30:C aurant. ategory. an the frequ	4 3 38,C41:C43) 38,C41:C43)
Exan C C C C C C C C C C C C C C C C C C C	hild 2 hild 3 hild 4 hild 5 hild 6 hild 7 hild 8 hild 9 Kg We Kg W	22.83 15.74 10.80 8.28 20.66 17.36 16.67 18.01 ight Intervals 15 20 100 uses charact as asked 40 ere entered in now wants to , the =FREQU sulated? is to use the = () forces all th function calc	ters instead of customers fo nto a table as calculate hor JENCY() func CODE() and = ne text entries	f values. r their rating a single let w many res tion ignores =UPPER() f to be cons ique ANSI o	g of the food ter, E, V, A, ponses fell s text entrie unctions. idered as ca code for eac	than or equ A [=FREQUE {=FREQUE {=FREQUE {=FREQUE (=FREQUE (=FREQUE) (=FREQU	al to 20 Kg bove 20 Kg NCY(C30:C NCY(C30:C NCY(C30:C NCY(C30:C aurant. ategory. an the frequ	4 3 38,C41:C43) 38,C41:C43)
Exan C C C C C C C C C C C C C C C C C C C	hild 2 hild 3 hild 4 hild 5 hild 6 hild 7 hild 8 hild 9 Kg We Kg W	22.83 15.74 10.80 8.28 20.66 17.36 16.67 18.01 ight Intervals 15 20 100 uses charact as asked 40 ere entered in now wants to , the =FREQU sulated? is to use the = () forces all th function calc	ters instead of customers fo nto a table as calculate ho JENCY() func CODE() and = ne text entries culates the un	f values. r their rating a single let w many res tion ignores =UPPER() f to be cons ique ANSI o	g of the food ter, E, V, A, ponses fell s text entrie unctions. idered as ca code for eac	than or equ A [=FREQUE {=FREQUE {=FREQUE {=FREQUE (=FREQUE (=FREQUE) (=FREQU	al to 20 Kg bove 20 Kg NCY(C30:C NCY(C30:C NCY(C30:C NCY(C30:C aurant. ategory. an the frequ	4 3 38,C41:C43) 38,C41:C43)

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FREQUENCY

	А	В	С	D	E	F	G	Н	I
60		Excellent	Ш	6	{=FREQUEN	ICY(CODE(UF	PPER(B67:I71)),CODE(UPP	ER(C60:C64)))}
61		Very Good	V	8	{=FREQUEN	ICY(CODE(UF	PER(B67:I71)),CODE(UPP	ER(C60:C64)))}
62		Average	А	9	{=FREQUEN	ICY(CODE(UF	PPER(B67:I71)),CODE(UPP	ER(C60:C64)))}
63		Poor	Р	8	{=FREQUEN	ICY(CODE(UF	PPER(B67:I71)),CODE(UPP	ER(C60:C64)))}
64		Disgusting	D	9	{=FREQUEN	ICY(CODE(UF	PPER(B67:I71)),CODE(UPP	ER(C60:C64)))}
65					-				
66		Customer Rat	tings						
67		V	D	V	А	р	А	D	D
68		V	Р	a	D	А	Р	V	d
69		A	V	E	Р	р	E	D	Á
70]	A	E	d	V	D	Р	a	Ē
71		V	е	Р	Р	А	V	E	D

FREQUENCY 2

This example shows how the =FREQUENCY() function has been used to calculate how often certain numbers appear in the Lottery results.

Table 1 is a record of all the results from the past seven weeks.

	Table 1						
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
1st Number	3	36	5	3	2	41	45
2nd Number	6	3	19	37	23	15	4
3rd Number	15	44	35	20	47	29	44
4th Number	32	15	32	46	6	45	23
5th Number	37	31	13	22	49	13	43
6th Number	5	22	30	8	49	11	46
Bonus Ball	17	13	15	25	18	17	1

Table 2 is the list of possible number from 1 to 49, and how many appearances each number has made during the past seven weeks.

Table 2	2
---------	---

Lottery Number	How Many Appearances	
1	1	{=F
2	1	{=F
3	3	{=F
4	1	{=F
5	2	
6	2	
7	0	
8	1]
9	0]
10	0	
11	1	
12	0	
13	3	
14	0	
15	4	
16	0	
17	2	
18	1	
19	1	
20	1	
21	0	
22	2	
23	2	
24	0	
25	1	
26	0	
27	0	
28	0	
29	1	
30	1	
31	1	
32	2	
33	0	

=FREQUENCY(C10:I16,B24:B72)}
=FREQUENCY(C10:I16,B24:B72)}
=FREQUENCY(C10:I16,B24:B72)}
=FREQUENCY(C10:I16,B24:B72)}

Special tip! To count how many unique numbers in a range use the following formula. It has to be entered, as an array, so press Ctrl+Shift+Enter rather than, just Enter alone.
Unique values. <u>31</u>

=SUM(1/COUNTIF(C10:I16,C10:I16))

34	0
35	1
36	1
37	2
38	0
39	0
40	0
41	1
42	0
43	1
44	2
45	2
46	2
47	1
48	0
49	2

GCD

	A B	С	D	E	F	G	Н		J		
1	GCD				•	<u> </u>		•	_		
	660										
2	-			Createst	1						
3	Greatest Numbers Divisor										
4	-	6	15	3	=GCD(C4,D4)						
5	-	28	49	7	=GCD(C5						
6	-	5 99 1 = GCD(C6,D6)									
7											
	Greatest										
8			Numbe	rs	Divisor						
9	-	18 72 96 6 =GCD(C9,D9,E9)									
10	-	300	500	200	100		0,D10,E10))			
11		2.5	4	6	0.5		1,D11,E11)				
12			•		•						
13	What Does	s It Do ?									
14	This function	on calculate	es the larges	st number which	can be used	d to divided	all the				
15	values spe	cified.									
16	The result	is always a	whole numl	ber.							
17				r the value of 1 is	s used.						
18	Decimal fra	actions are	ignored.								
19											
20	Syntax								-		
21	=GCD(Number1,Number2,Number3 through to Number29)										
22											
23	Formattin								-		
24	No special	formatting	is needed.								

	A B	С	D	E	F	G	Н	I	J		
1	GESTEP										
2											
3		Number1	Number2	GESTEP							
4		10	20	0	=GESTEP	(C4,D4)					
5		50	20	1	=GESTEP	(C5,D5)					
6		99	100	0	=GESTEP	(C6,D6)					
7		100	100	1	=GESTEP	(C7,D7)					
8		101	100	1	=GESTEP	(C8,D8)					
9		2		1	=GESTEP	(C9,D9)					
10			2	0	=GESTEP	(C10,D10)					
11					-						
12	What Does										
13	This function test a number to see if it is greater than or equal to another number.										
14	If the number is greater than or equal, the result of 1 will be shown, otherwise 0 is shown.										
15											
16	Syntax										
17	=GESTEP((NumberTo	Test,Numbe	erToTestAg	ainst)						
18											
19	Formatting										
20	No special	formatting i	s needed.								
21	-										
22	Example										
23					v many sale						
24	The =GES	TEP() functi	on compare	es the Sales	s with Targe	et, and the r	esults are t	totalled.			
25	-										
26	-	Name	Sales	Target	GESTEP						
27	-	Alan	£3,000	£4,000	0	=GESTEP					
28	-	Bob	£5,000	£4,000	1	=GESTEP	· · · · · · · · · · · · · · · · · · ·				
29	-	Carol £1,000 £2,000 0 =GESTEP(D29,E29)									
30	-	David	£2,000	£2,000	1		(D30,E30)				
31	-	Eric	£8,000	£7,000	1	=GESTEP	(D31,E31)				
32	-		T = 10	- A - I			7-504)				
33			Target	s Achieved	3	=SUM(F2	(:+31)				

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	A B	С	D	E	F	G	Н	Ι	J
1	GROWTH								
2				-					
3		Size Of	Known						
0	_	Sales Team	Performance						
4		10	£50,000						
5		20	£60,000						
6		30	£70,000						
7		40	£75,000						
8		50	£80,000						
9		60	£82,000	1					
10		70	£84,000	1					
11		80	£86,000	1					
12				-					
13	1	90	56,263						
14	1	100							
15	1	110							

	A B	С	D	E	F	G
1	HEX2DEC	•				
2						
3		Hexadecimal	Decimal Number			
4		0	0	=HEX2DEC(C4)		
5		1	1	=HEX2DEC(C5)		
6		2	2	=HEX2DEC(C6)		
7		3	3	=HEX2DEC(C7)		
8		1A		=HEX2DEC(C8)		
9		1B		=HEX2DEC(C9)		
10		7FFFFFFFF		=HEX2DEC(C10)		
11		800000000		=HEX2DEC(C11)		
12		FFFFFFFFF		=HEX2DEC(C12)		
13		FFFFFFFFE		=HEX2DEC(C13)		
14		FFFFFFFFD	-3	=HEX2DEC(C14)		
15						
16	What Does					
17	This functio	on converts a hexac	lecimal number to its dec	imal equivalent.		
18						
19	Syntax					
20	=HEX2DEC	C(HexaDecimalNum	iber)			
21						
22	Formatting					
23	No special	formatting is neede	d.			
24	—					
25	Example					
26	I ne tollowi	ng table was used t	o add two hexadecimal v	alues together.		
27	1	Llovadaaimal	l			
28	Value 1	Hexadecimal F				
29	Value 1 Value 2	-				
30 31		1A 29			2011	
31	Result	29	=DEC2HEX(HEX2DEC(50))	

HLOOKUP

173Fun	tionsofExc	el.xls at 04/20	/2015	HLOOK	UP			Page 78	of 195			
/	A B	С	D	E	F	G	Н	I	J			
1	ILOOK	UP					•					
2												
3			Jan 10	Feb	Mar	row 1		nbers are not n				
4 5			20	80 90	97 69	row 2 row 3	they are par	t of the illustrati	on.			
6			30	100	45	row 3						
7			40	110	51	row 5						
8			50	120	77	row 6						
9												
10			be a month t		Feb							
11 12		Which row ne	eeas to be p	ICKED OUT :	4							
13			The	e result is :	100	=ні оок	UP(F10.D3	:F10,F11,FA	ALSE)			
14									,			
15		oes It Do ?										
16	This function scans across the column headings at the top of a table to find a specified item. When the item is found, it then scans down the column to nick a cell entry.											
17	When the item is found, it then scans down the column to pick a cell entry.											
18 19	Syntax											
20	Syntax =HLOOKUP(ItemToFind,RangeToLookIn,RowToPickFrom,SortedOrUnsorted)											
21	The ItemToFind is a single item specified by the user.											
22	The RangeToLookIn is the range of data with the column headings at the top.											
23	The RowToPickFrom is how far down the column the function should look to pick from.											
24	The Sorted/Unsorted is whether the column headings are sorted. TRUE for yes, FALSE for no.											
25 26	Formatting											
27	Formatting No special formatting is needed.											
28		ion rorrichten g										
29	Exampl											
30		le is used to f					name.					
31		OOKUP() is a					incont to th	0 0000				
32 33		plem arises w the problem				line row au	Jacent to th	e name.				
34	10 00110											
35	The =M/	ATCH() looks	through the	list of name	es to find th	e name we	e require. It	then calcula	tes			
36		tion of the nar)			
37		okup range, t		I() number i	s 1 less tha	an we requ	iire, so and	extra 1 is				
38 39	added to	o compensate	•									
40	The =HL	OOKUP() no	w uses this :	=MATCH()	number to I	ook down	the month o	column and				
41		t the correct of		V								
42												
43		OOKUP() us										
44 45		headings are ere sorted alp		-				s correct.				
45	n triey w	ere suiteu dif	manelically	และ พบนเน	nave lead à	is red, j di	I, IVICI.					
47			Jan	Feb	Mar							
48		Bob	10	80	97							
49		Eric	20	90	69							
50		Alan	30	100	45							
51 52		Carol David	40 50	110 120	51 77							
52		Davia	30	120	11	l						
54		Тур	be a month t	o look for :	feb							
55			pe a name t		alan							
56					100							
57			The	e result is :								
58				-ILUUKU	r(r34,D4/	.ro4,IVIA I	СП(ГЭЭ,С4	8:C52,0)+1,I	-ALSE)			

	A	В	С	D	E	F	G	Н	-		J
59	A	D	C	D			G		I		J
60	Exar	nple 2									
61				ow the =H	LOOKUP()	is used to pi	ick the cost	of a spare	part for		
62			akes of cars			ie deed to p			partie		
63					ımn headin	gs for the m	ake of car s	necified in	column B		
64						then looks d					
65						list of spare					
66	by th					list of spare.		ii opeoineu		. 0.	
67	The	functio	n uses the	absolute ra	anges indic:	ated by the c	dollar symbo	ol \$ This e	nsures the	at	
68						e ranges for					
69		hange				rangee iei	1120 01(0)				
70			-								
71	Má	aker	Spare	Cost							
72		ixhall	Ignition	£50			Vauxhall	Ford	VW		
73		/W	GearBox	£600		GearBox	500	450	600		
74		ord	Engine	£1,200		Engine	1000	1200	800		
75		/W	Steering	£275		Steering	250	350	275		
76		ord	Ignition	£70		Ignition	50	70	45		
77		ord	CYHead	£290		CYHead	300	290	310		
78		ixhall	GearBox	£500							
79		ord	Engine	£1,200							
80				=HLOOK	Ū P(B79,G7	2:177,MATC	H(C79,F73:	F77,0)+1,F	ALSE)		
81											
82											
83		nple 3									
84						t is offering		-	rs.		
85						of Brick, Wo					
86	The Discount Table holds the various discounts for different quantities of each product.										
87	The	Orders	s Table is us	sed to ente	er the orders	and calcula	ate the Tota				
88											
89					the Orders	l able.					
90	Ine	name	of the Item i	is typed in	column C.						
91	The						a at Tabla				
92						n the Unit Co		aata that th	aa aradud		
93 94						nd of the fur le are not so		cale mai ii	le produci		
94						n to search f		motch If a	match ic		
95		•			luce an erro			match. II a	i maich is		
90			UP(C127,E	•		л.					
97	-0				, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
99	The	discou	nt is then Ic	oked un ir	the Discou	nt Table					
100				•		he top of the	Discount T	able the $=1$		o will	
101					correct disc						
102						d of the fund	ction to indic	ate that th	e values		
103			•		Table are s						
104						e an approxi	imate match	. If the Qu	antity Ord	ered	does
105	no	t match	n a value at	the top of	the Discour	nt Table, the	next lowest	t value is u	sed.		
106	Try	/ing to	match an o	rder of 12	5 will drop d	own to 100,	and the dis	count from			
107	the	e 100 c	olumn is us	sed.							
108	=H	ILOOK	UP(D127,E	115:G118	,MATCH(C1	27,D116:D1	L18,0)+1,TR	UE)			
109											
110					U	Init Cost Tab	ole				
111					Brick	Wood	Glass				
112					£2	£1	£3				
113											
114					[Discount Tab	-				
115					1						
116 117				Brick Wood	0%						

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	A	В	С	D	E	F	G	Н	I	J		
118				Glass	0%	12%	15%					
119												
120												
121			Item	Units	Unit Cost	Discount	Total					
122			Brick	100	£2	6%	£188					
123			Wood	200	£1	3%	£194					
124			Glass	150	£3	12%	£396					
125			Brick	225	£2	6%	£423					
126			Wood	50	£1	0%	£50					
127			Glass	500	£3	15%	£1,275					
128			-									
129			Unit Cost	it Cost =HLOOKUP(C127,E111:G112,2,FALSE)								
130												
131	Discount =HLOOKUP(D127,E115:G118,MATCH(C127,D116:D118,0)+1,TRUE)											

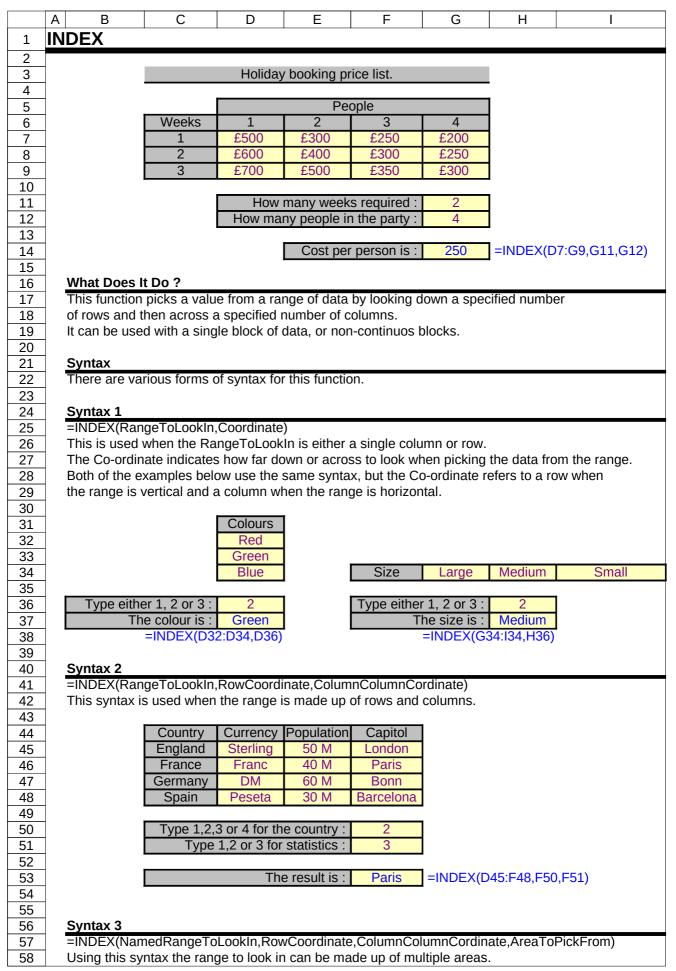
HOUR

	A	В	С	D	E	F	G	Н	I	
1	HO	UR								
2					_					
3			Number	Hour						
4			21:15	21	=HOUR(C4)					
5			0.25	6	=HOUR(C5)					
6					-					
7	What Does It Do?									
8	T	The functio	n will show the ho	our of the da	ay based upon a	a time or a r	number.			
9										
10		Syntax								
11	-	=HOUR(N	umber)							
12										
13	Formatting									
14	T	he result	will be shown as a	a normal nu	mber between () and 23.				

62

	В	С	D	E	F	G		H	I
=			1					1	
I	Name	Sales	Target	Result	1				
ł	Alan	1000	5000	Not Achieved	=IF(C4>=D4,"A	chieved"	"Not A	Achieved	")
ł	Bob	6000	5000	Achieved	=IF(C5>=D5,"A				
ł	Carol	2000	4000	Not Achieved					
ľ							,		
	What Does	s It Do?							
	This function	on tests a co	ondition.						
	If the condi	ition is met i	it is conside	ered to be TRU	E.				
	If the condi	ition is not n	net it is con	sidered as FAL	SE.				
	Depending	upon the re	esult, one o	f two actions w	ill be carried out				
,	Syntax								
		tion,ActionI							
				two cells, such					
	The Action	If I rue and /	ActionITEals	e can be numb	ers, text or calc	ulations.			
	Formattin	~							
	Formatting	y formatting i	s required						
	no special	iomating i	s required.						
	Example 1	L							
			ows the Sal	es figures and	Targets for sale	s reps.			
				hey must reach					
					with the Target.				
					et the result of A		is shov	vn.	
					Not Achieved is				
	Note that the	he text used	l in the =IF() function need	ls to be placed i	n double (quotes	"Achiev	ed".
r					,				
ļ	Name	Sales	Target	Result					III)
ļ	Alan	1000	5000	Not Achieved					
	Bob	6000	5000 4000	Achieved	=IF(C32>=D32 =IF(C33>=D33				
ļ	Carol	2000	4000	Not Achieved	-IF(C35/-D35	, Achieve	u, NC	ACHIEV	eu)
	Example 2	<u>)</u>							
			similar to th	at in Example 1	1.				
	This time the	he Commiss	sion to be p	aid to the sales	s rep is calculate	d.			
	If the Sales	s are greate	r than or eq	jual to the Targ	et, the Commiss	sion is 10 ⁰	% of S	ales.	
	If the Sales	s do not rea	ch Target, t	he Commission	n is only 5% of S	Sales.			
r									
	Name	Sales	Target	Commission		0.0010.00			
I	Alan	1000 6000	5000	50	=IF(C43>=D43				
ł	Bob	6000	5000	600	=IF(C44>=D44	.044*109	⁄o.C44'	`ጛ%)	
				100					
	Carol	2000	4000	100	=IF(C45>=D45				
				100	=IF(C45>=D45				
	Carol	2000		100	=IF(C45>=D45				
	Carol Example 3	2000	4000						
•	Carol Example 3 This exam	2000 B ple uses the	4000 e =AND() wi	ithin the =IF() fi	unction.	,C45*10%			
	Carol Example 3 This examp A builders	2000 B ple uses the merchant g	4000 e =AND() wi ives 10% di	ithin the =IF() fr scount on certa		,C45*109	%,C45*	*5%)	9
	Carol Example 3 This examp A builders	2000 g ple uses the merchant gi int is only gi	4000 e =AND() wi ives 10% di	ithin the =IF() fr scount on certa	unction. ain product lines	,C45*109	%,C45*	*5%)	Ģ
	Carol Example 3 This examp A builders The discou is £1000 or	2000 ple uses the merchant gi int is only gi r above.	4000 e =AND() wi ives 10% di iven on prod	thin the =IF() fi scount on certa ducts which are	unction. ain product lines	,C45*109 er, when t	%,C45*	*5%) der Value	
	Carol Example 3 This examp A builders The discou is £1000 or The =AND	2000 ple uses the merchant gi int is only gi r above.	4000 e =AND() wi ives 10% di iven on prod s used with	thin the =IF() for scount on certa ducts which are the =IF() to ch	unction. ain product lines e on Special Offe	,C45*109 er, when t	%,C45*	*5%) der Value	
	Carol Example 3 This examp A builders The discou is £1000 or The =AND	2000 ple uses the merchant gi int is only gi r above. () function is	4000 e =AND() wi ives 10% di iven on prod s used with	thin the =IF() for scount on certa ducts which are the =IF() to ch	unction. ain product lines e on Special Offe	,C45*109 er, when t	%,C45*	*5%) der Value	
	Carol Example 3 This examp A builders The discou is £1000 or The =AND the value o	2000 ple uses the merchant gi int is only gi r above. () function is of the order i Special	4000 e =AND() wi ives 10% di iven on prod s used with is above £1 Order	thin the =IF() fi scount on certa ducts which are the =IF() to ch 000.	unction. ain product lines e on Special Offe eck that the prod	,C45*109 er, when t	%,C45*	*5%) der Value	
	Carol Example 3 This examp A builders The discou is £1000 or The =AND the value o Product	2000 ple uses the merchant gi int is only gi r above. () function is of the order is Special Offer	4000 e =AND() wi ives 10% di iven on prod s used with is above £1 Order Value	ithin the =IF() fi scount on certa ducts which are the =IF() to ch 000. Discount	unction. ain product lines e on Special Offe eck that the prod Total	,C45*109 er, when t	%,C45*	*5%) der Value	
	Carol Example 3 This examp A builders of The discourtis £1000 or The =AND the value of Product Wood	2000 ple uses the merchant gi int is only gi r above. () function is of the order i Special Offer Yes	4000 e =AND() wi ives 10% di iven on prod s used with is above £1 Order Value £2,000	thin the =IF() fi scount on certa ducts which are the =IF() to ch 000. Discount £200	unction. ain product lines e on Special Offe eck that the prod Total £1,800	,C45*109 er, when t	%,C45*	*5%) der Value	
	Carol Example 3 This examp A builders The discou is £1000 or The =AND the value o Product Wood Glass	2000 ple uses the merchant gi int is only gi r above. () function is of the order i Special Offer Yes No	4000 e =AND() wi ives 10% di iven on prod s used with is above £1 Order Value £2,000 £2,000	thin the =IF() fi scount on certa ducts which are the =IF() to ch 000. Discount £200 £-	unction. ain product lines e on Special Offe eck that the prod Total £1,800 £2,000	,C45*109 er, when t	%,C45*	*5%) der Value	
	Carol Example 3 This examp A builders of The discourtis £1000 or The =AND the value of Product Wood	2000 ple uses the merchant gi int is only gi r above. () function is of the order i Special Offer Yes	4000 e =AND() wi ives 10% di iven on prod s used with is above £1 Order Value £2,000	thin the =IF() fi scount on certa ducts which are the =IF() to ch 000. Discount £200	unction. ain product lines e on Special Offe eck that the prod Total £1,800	,C45*109 er, when t	%,C45*	*5%) der Value	

=IF(AND(C61="Yes",D61>=1000),D61*10%,0)



	A B	С	D	E	F	G	Н	I
59	The easies	t way to refer t	o these are	eas is to sele	ect them and	d give them	a single na	me.
60								
61	The AreaTo	PickFrom ind	icates whic	h of the mul	tiple areas s	should be us	sed.	
62								
63		ving example t	-	for North an	d South hav	re been nam	ied as one	
64	range calle	d NorthAndSo	uth.					
65	-							
66	_	NORTH	Qtr1	Qtr2	Qtr3	Qtr4		
67	-	Bricks	£1,000	£2,000	£3,000	£4,000		
68	_	Wood	£5,000	£6,000	£7,000	£8,000		
69	_	Glass	£9,000	£10,000	£11,000	£12,000		
70 71	-	SOUTH	Qtr1	Qtr2	Qtr3	Qtr4		
71	-	Bricks	£1,500	£2,500	£3,500	£4,500		
73	-	Wood	£5,500	£6,500	£7,500	£8,500		
74	-	Glass	£9,500	£10,500	£11,500	£12,500		
75	1	01400	20,000	210,000	211,000	212,000		
76	-	Type 1, 2	2 or 3 for th	e product :	1	1		
77	-		., 2, 3 or 4 f		3	1		
78	-		North or 2		2	1		
79						•		
80			Th	e result is :	Err:504	=INDEX(N	orthAndSo	uth,F76,F77,F78)
81						-		
82								
83								
84	Example			-				
85		extended versi						
86		e names of pro					41	a sa ta wa al
87				nd the row a	the set of the stress of the set		the names	
88	nese posi	lions are then			and column			entereu.
89 90	4		useu by th			positions of ook for the c		entereu.
		FAST	-	e =INDEX()	function to l	ook for the c		entereu.
	_	EAST Bricks	Qtr1	e =INDEX() Qtr2	function to log	ook for the c Qtr4		entereu.
91	-	EAST Bricks Wood	Qtr1 £1,000	e =INDEX() Qtr2 £2,000	function to b Qtr3 £3,000	ook for the c Qtr4 £4,000		entereu.
91 92	-	Wood	Qtr1 £1,000 £5,000	e =INDEX() Qtr2 £2,000 £6,000	function to b Qtr3 £3,000 £7,000	Qtr4 £4,000 £8,000		entereu.
91 92 93	-		Qtr1 £1,000	e =INDEX() Qtr2 £2,000	function to b Qtr3 £3,000	ook for the c Qtr4 £4,000		entereu.
91 92 93 94	-	Wood	Qtr1 £1,000 £5,000	e =INDEX() Qtr2 £2,000 £6,000 £10,000	function to l Qtr3 £3,000 £7,000 £11,000	Qtr4 £4,000 £8,000		entereu.
91 92 93	-	Wood	Qtr1 £1,000 £5,000 £9,000	e =INDEX() Qtr2 £2,000 £6,000	function to b Qtr3 £3,000 £7,000	Qtr4 £4,000 £8,000 £12,000		entereu.
91 92 93 94 95		Wood Glass WEST	Qtr1 £1,000 £5,000 £9,000	e =INDEX() Qtr2 £2,000 £6,000 £10,000 Qtr2	function to l Qtr3 £3,000 £7,000 £11,000 Qtr3	Qtr4 £4,000 £8,000 £12,000 Qtr4		entereu.
91 92 93 94 95 96		Wood Glass WEST Bricks	Qtr1 £1,000 £5,000 £9,000 Qtr1 £1,500	e =INDEX() Qtr2 £2,000 £6,000 £10,000 Qtr2 £2,500	function to l Qtr3 £3,000 £7,000 £11,000 Qtr3 £3,500	Qtr4 £4,000 £8,000 £12,000 Qtr4 £4,500		entereu.
91 92 93 94 95 96 97		Wood Glass WEST Bricks Wood	Qtr1 £1,000 £5,000 £9,000 Qtr1 £1,500 £5,500	e =INDEX() Qtr2 £2,000 £6,000 £10,000 Qtr2 £2,500 £6,500	function to l Qtr3 £3,000 £7,000 £11,000 Qtr3 £3,500 £7,500	Qtr4 £4,000 £8,000 £12,000 Qtr4 £4,500 £8,500		entereu.
91 92 93 94 95 96 97 98		Wood Glass WEST Bricks Wood Glass Type 1, 2	Qtr1 £1,000 £5,000 £9,000 Qtr1 £1,500 £5,500 £9,500 2 or 3 for th	e =INDEX() Qtr2 £2,000 £6,000 Qtr2 £2,500 £6,500 £10,500 e product :	function to l Qtr3 £3,000 £7,000 £11,000 Qtr3 £3,500 £7,500	Qtr4 £4,000 £8,000 £12,000 Qtr4 £4,500 £8,500		entereu.
91 92 93 94 95 96 97 98 99 100 101		Wood Glass Bricks Wood Glass Type 1, 2 Type 1	Qtr1 £1,000 £5,000 £9,000 Qtr1 £1,500 £5,500 £9,500 2 or 3 for th ., 2, 3 or 4 f	e =INDEX() Qtr2 £2,000 £6,000 Qtr2 £2,500 £6,500 £10,500 e product : for the Qtr :	function to l Qtr3 £3,000 £7,000 £11,000 Qtr3 £3,500 £7,500 £11,500	Qtr4 £4,000 £8,000 £12,000 Qtr4 £4,500 £8,500		entereu.
91 92 93 94 95 96 97 98 99 100 101 102		Wood Glass Bricks Wood Glass Type 1, 2 Type 1	Qtr1 £1,000 £5,000 £9,000 Qtr1 £1,500 £5,500 £9,500 2 or 3 for th ., 2, 3 or 4 f	e =INDEX() Qtr2 £2,000 £6,000 Qtr2 £2,500 £6,500 £10,500 e product :	function to l Qtr3 £3,000 £7,000 £11,000 Qtr3 £3,500 £7,500 £11,500 wood	Qtr4 £4,000 £8,000 £12,000 Qtr4 £4,500 £8,500		entereu.
91 92 93 94 95 96 97 98 99 100 101 102 103		Wood Glass Bricks Wood Glass Type 1, 2 Type 1	Qtr1 £1,000 £5,000 £9,000 Qtr1 £1,500 £5,500 £9,500 2 or 3 for th ., 2, 3 or 4 f	e =INDEX() Qtr2 £2,000 £6,000 £10,000 Qtr2 £2,500 £6,500 £10,500 e product : for the Qtr : for South :	function to la Qtr3 £3,000 £7,000 £11,000 Qtr3 £3,500 £7,500 £11,500 wood qtr2 west	Qtr4 £4,000 £8,000 £12,000 Qtr4 £4,500 £8,500		entereu.
91 92 93 94 95 96 97 98 99 100 101 102 103 104		Wood Glass WEST Bricks Wood Glass Type 1, 2 Type 1	Qtr1 £1,000 £5,000 £9,000 Qtr1 £1,500 £5,500 £9,500 2 or 3 for th ., 2, 3 or 4 f	e =INDEX() Qtr2 £2,000 £6,000 Qtr2 £2,500 £6,500 £10,500 e product : for the Qtr :	function to la Qtr3 £3,000 £7,000 £11,000 Qtr3 £3,500 £7,500 £11,500 wood qtr2 west	Qtr4 £4,000 £8,000 £12,000 Qtr4 £4,500 £8,500		entereu.
91 92 93 94 95 96 97 98 99 100 101 102 103		Wood Glass WEST Bricks Wood Glass Type 1, 2 Type 1	Qtr1 £1,000 £5,000 £9,000 Qtr1 £1,500 £5,500 £9,500 2 or 3 for th c, 2, 3 or 4 f North or 2 Th	e =INDEX()	function to l Qtr3 £3,000 £7,000 £11,000 Qtr3 £3,500 £7,500 £11,500 £11,500 wood qtr2 west Err:504	Qtr4 £4,000 £8,000 £12,000 Qtr4 £4,500 £8,500 £12,500	lata.	

INDIRECT

	А	В	С	D	E	F	G	Н	I	J		
1	IN	DIRECT										
2												
3						Jan	Feb	Mar	1			
4	1				North	10	20	30	1			
5	1				South	40	50	60]			
6	1				East	70	80	90]			
7					West	100	110	120				
8					-				-			
9		Type add	dress of any	of the cell	s in the abo	ve table, su	ch as G6 :	G6				
10	_			-	r la a	41 11		00		T (110)		
11 12	-				i ne value in	the cell you	i typed is :	80	=INDIREC	, I (H9)		
12	-	What Does	It Do 2									
14	-	This functio		a nlain niec	e of text wh	nich looks lik	(e a cell adu	dress into a	usable			
15	-	cell reference		a plain piec					a usuble			
16	-	The addres		ther on the	same work	sheet or on	a different v	vorksheet				
17	1							ronton ooti				
18	1	Syntax										
19		=INDIRECT	(Text)									
20	1											
21	1	Formatting										
22		No special f	formatting is	s needed.								
23												
24		Example 1										
25		This examp				form other	worksheets	by using				
26	the worksheet name and a cell address. The example uses three other worksheets named NORTH, SOUTH and EAST.											
27	-											
28	-	The data or	i these thre	e sneets is	laid out in t	ne same ce	lis on each	sneet.				
29 30	-	When a refe	oronco to o	choot ic m	ada tha ava	lamation su	mbol I nood	e to bo pla	cod			
30	-	between the				-		s to be pla	ceu			
32	-	between in	Sheet nan			ing as pund	,luation.					
33	-		Type the na	me of the	sheet, such	as North ·	North					
34	-				ata from, su		C8					
35	1				ne cell C8 o		120	=INDIREC	CT(G33&"!"&	2G34)		
36	1									,		
37		The =INDIR	RECT() crea	ted a refere	ence to =NC	ORTH!C8						
38												
39												
40		Example 2										
41		This examp					e the =SUM	() function i	S			
42	_	used to calc	culate a tota	al from a rai	nge of cells							
43	_		- 4	6.1			0 1	1				
44	4				sheet, such		South					
45	-				ne range, su		C5					
46	-				ne range, su		C7					
47	-		The sum	i oi the rang	ge C5:C7 or	I South is : IM(INDIREC	1200	2.0.45.2	246))			
48 49	-				-30		JI (G44& ! (xU43& . &	340))			
	-	The =INDIR		ted a refer	once to -CI	ΙΜ(ϚΟΙ ΙΤΗΙ	$C5 \cdot C7$					
50	-						03.07)					
51	1											

	Α	В	С	D	E	F
1	IN	FO				
2				_		
3			System Information			
4		Current directory		=INFO("di		
5		Available bytes of memory		=INFO("m		
6		Memory in use		=INFO("m		
7		Total bytes of memory	Err:502	=INFO("to		
8		Number of active worksheets	1	=INFO("nı		
9		Cell currently in the top left of the window		=INFO("or		
10		Operating system	Windows (32-bit) NT 5.01			
11		Recalculation mode		=INFO("re	· · · · · · · · · · · · · · · · · · ·	
12		Excel version	341m1(Build:9593)			
13		Name of system. (PC or Mac)	LINUX	=INFO("sy	/stem")	
14						
15		What Does It Do?				I
16		This function provides information about the o	operating environment of the	computer.		
17	4					
18		Syntax				I
19	4	=INFO(text)				
20	4	text : This is the name of the item you requi	re information about.			
21						
22		Formatting				I
23		The results will be shown as text or a number	depending upon what was r	equested.		

unt	ionsotExce	.xls at 04/20/2	015	INT				Page 87 of
A		С	D	E	F	G	Н	
II	NT							
+		Number	Integer	1				
-		1.5	1	=INT(C4)				
		2.3	2	=INT(C5)				
		10.75	10	=INT(C6)				
-		-1.47589	-2	=INT(C7)				
+	What Doe	es It Do ?						
1			umber down t	o the nearest v	vhole numb	er.		
4	Syntax							
-	=INT(Num	iber)						
-	Formattir	na						
1		l formatting is	needed.					
	_	-						
-	Example	ing table	upped by		the ere i	abild	the	
-	I he follow school yea	0	useu by a sch	ool to calculate	e me age a	child when t	uie	
-			itted to school	if they are ove	er 8 years ol	d.		
	The Birth	Date and the 1	erm Start dat	e are entered a	and the age			
]	Table 1 sł	nows the age o	of the child wit	h decimal plac	es			
4		Tabla 1						
-		Table 1 Birth Date	Term Start	Age	1			
-		1-Jan-80	1-Sep-88	Age 8.6680355921	=(D27-C2	7)/365.25		
		5-Feb-81	1-Sep-88	7.5701574264		,		
]		20-Oct-79	1-Sep-88	8.8678986995				
4		1-Mar-81	1-Sep-88	7.5044490075	j.			
-								
1	Table 2 sł	nows the age o	of the child wit	h the Age form	atted with n	o decimal p	laces.	
1		he effect of inc				•		
-		Table 0						
-		Table 2 Birth Date	Term Start	Age	1			
-		1-Jan-80	1-Sep-88	<u> </u>	=(D38-C3	8)/365.25		
		5-Feb-81	1-Sep-88	8		•		
		20-Oct-79	1-Sep-88	9				
-		1-Mar-81	1-Sep-88	8				
-								
1	Table 3 sh	nows the age o	of the child wit	h the Age calc	ulated using	the =INT()	function to	
				er to give the co		U		
-		Table 2						
-		Table 3 Birth Date	Term Start	Age	1			
-		1-Jan-80	1-Sep-88	Aye 8	=INT((D49	9-C49)/365.:	25)	
		5-Feb-81	1-Sep-88	7			-/	
]		20-Oct-79	1-Sep-88	8				
-		1-Mar-81	1-Sep-88	7				
1								
	Note		oubtroating th	no Birth Dato fr	om the Terr	m Start to fir	nd the	
	Note The age is	s calculated by	subtracting tr	le birti bate i				
	The age is age of the	child in days.	C C					
-	The age is age of the The numb	child in days. her of days is th	nen divided by					

	A	В	C	D	E	F	G	Н
1	ISB	LANK						
2								
3			Data	Is The Cell Blank				
4			1		=ISBLANK(C4)			
5			Hello		=ISBLANK(C5)			
6					=ISBLANK(C6)			
7			25-Dec-98	FALSE	=ISBLANK(C7)			
8								
)		hat Doe				!!		
)				nine if there is an en			ore but wh	ich
1 2				spreadsheet has bla data is received by		ay cause err	ors, but wh	ICH
2 3				used in conjunction v		tion which a	an tast tha	rocult
5 4		the =ISE						IESUIL
4 5		10 - 10 L						
5 6	S۱	/ntax						
7			<(CellToTest)				
3			(/				
9	Fo	ormatting	g					
)				t will be shown as TI	RUE or FALSE.			
2		cample						
3				shows a list of cheq		company.		
				eared the date is ente				
; ;				s entered the Cleare				
				mn is blank the chec	•	•		
				is entered the cheq				
 		ie =ISBL	ANK() functi	on is used to determ	line whether the C	Jeared colui	mn is empty	y or not.
		neuries I	Received	Date		Date		
,		Num	From	Received	Amount	Cleared	Banked	Outstanding
		chq1	ABC Ltd	1-Jan-98	£100	2-Jan-98	100	0
3		chq2	CJ Design	1-Jan-98	£200	7-Jan-98	200	0
		chq3	J Smith	2-Jan-98	£50		0	50
5		chq4	Travel Co.	3-Jan-98	£1,000		0	1000
6		chq5	J Smith	4-Jan-98	£250	6-Jan-98	250	0
7					=IF	(ISBLANK(F		
8						=	IF(ISBLAN	K(F36),E36,0)
9							-	
))	1					Totals	550	1050

ISERR

згu	1110/150		s al 04/20/2	.013	ISERR			F	age 89 01 195
	Α	В	С	D	E	F	G	Н	I
L	ISER	R							
2									
3				Cell to test	Result				
4				3		=ISERR(D			
5				#DIV/0!		=ISERR(D			
6 7				Err:508 #VALUE!		=ISERR(D =ISERR(D			
7 8				#VALUE!		=ISERR(D			
9				#VALUE!		=ISERR(D			
10				#N/A		=ISERR(D			
11						,	· ·		
12	_		s It Do ?						
13				cell and shows					
14				the contents o	t the cell calc	culate witho	ut an error	, or if the	error
15	IS	the #NA	message.						
16 17	c	yntax							
18			cellToTest)						
19				e a cell refere	nce or a calc	ulation.			
20									
21	<u> </u>	ormattin	g						
22	N	o special	l formatting	is needed.					
23	_	_							
24		xample						- la sta la s	441 -
25				were used by a					
26 27	0	спатра	igne, by uiv	viding the cost	or the crate t	by the quan		es in the t	Jale.
28	Т	ahle 1 sh	nows what h	nappens when	the value ze	ro 0 is ente	ered as the	number o	f hottles
29				that an attemp					
30							, ,		
31			Table 1						
32				ost Of Crate :	£24				
33				tles In Crate :	0				
34			Cost of	single bottle :	#DIV/0!	=E32/E33			
35									
36 37	т	ahla 2 ch	NOWE HOW H	nis error can b	a tranned by	using the -		inction	
37 38	10	UDIE 2 51		is cirul call D	e nappen ny	using the -			
39			Table 2						
40				ost Of Crate :	£24				
41				tles In Crate :	0				
			Cost of	single bottle :	Try again!		R(F40/F41)	"Try agai	n!",E40/E41)

	A B	С	D	E	F	G	Н
1	ISERROR	·					
2							
3			Cell to test	Result			
4			3		=ISERRO		
5			#DIV/0!		=ISERRO		
6			Err:508		=ISERRO		
8			#VALUE! #VALUE!		=ISERRO =ISERRO		
9			#VALUE!		=ISERRO		
10			#V/LOL: #N/A		=ISERRO		
11			111 1 17	IntoL	IOLITITO		
12	What Does I	t Do ?					
13	This function	tests a cell or ca	alculation to determir	ne whether	an error ha	s been gen	erated.
14	It will show T	RUE for any type	e of error and FALSE	E if no error	is found.		
15							
16	Syntax						
17	=ISERROR(
18	The CellTole	est can be a cell	reference or a formu	lla.			
19 20	Formatting						
20		ormatting is need	ed				
22		initiating is need	cu.				
23	Example						
24		g tables was use	d to calculate the diff	erence bet	ween two d	ates.	
25							
26		vs an error due to	o the fact that the firs	st entry was	entered us	sing an inap	propriate
27	date format.						
28							
29		Table 1	lon 01 00	1			
30		Start date :					
31 32		End date : Difference :	5-Jan-98	=D31-D30			
32		Dinerence.	#VALUE!	-031-030			
34							
35	Table 2 show	vs how the =ISE	RROR() function has	been used	to trap the	error and ir	nform the
36			error in the data entry				
37			,				
38		Table 2					
39		Start date :	Jan 01 98				
40		End date :	5-Jan-98				
41		Difference :	Error in data entry				
42			=IF(ISERROR(D40	-D39),"Erro	or in data er	ntry",D40-D	39)

ISEVEN

	A B	С	D	E	F	G	Н	I
1	ISEVEN							
2				_				
3		Number	Is it Even					
4		1	0	=ISEVEN(C4)				
5		2	1	=ISEVEN(C5)				
6		2.5	1	=ISEVEN(C6)				
7		2.6	1	=ISEVEN(C7)				
8		3.5	0	=ISEVEN(C8)				
9		3.6	0	=ISEVEN(C9)				
10		Hello	#VALUE!	=ISEVEN(C10)				
11		1-Feb-98	0	=ISEVEN(C11)				
12		1-Feb-96	1	=ISEVEN(C12)				
13								
14								
15	What Does							I
16				ne whether it is ev	-			
17				odd number is sh	own as FAI	_SE.		
18			ns are ignored.					
19		ates can be ev						
20	Note that te	ext entries resu	ult in the #VAL	UE! error.				
21								
22	Syntax							I
23	=ISEVEN(CellToTest)						
24								
25	Formatting							I
26	No special	formatting is r	equired.					

ISLOGICAL

	A E	3	С	D	E	F	G	Н	I	J
1	ISLOC	SICA	L	•						·
2										
3				Cell To Test	Result					
4				FALSE	TRUE	=ISLOGIC	AL(D4)			
5				TRUE	TRUE	=ISLOGIC				
6					FALSE	=ISLOGIC	AL(D6)			
7				20	FALSE	=ISLOGIC	AL(D7)			
8				1-Jan-98	FALSE	=ISLOGIC	AL(D8)			
9				Hello	FALSE	=ISLOGIC	AL(D9)			
10				#DIV/0!	FALSE	=ISLOGIC	AL(D10)			
11										
12			It Do ?							
13	4			ell to determin			tents are lo	gical.		
14	-	-		only be TRU						
15	-			n a logical valu						
16	If the	cell do	es not cor	ntain a logical	value, the r	esult FALS	E is shown.			
17										
18	Synta									
19	=ISLC	DGICA	L(CellToT	est)						
20										
21		atting								
22	No sp	ecial f	ormatting	is needed.						

ISNA

	A B	С	D	E	F	G	Н	I	
1	ISNA								
2				_					
3		Number	Result						
4		1	FALSE	=ISNA(C4)					
5		Hello	FALSE	=ISNA(C5)					
6			FALSE	=ISNA(C6)					
7		1-Jan-98	FALSE	=ISNA(C7)					
8		#N/A	TRUE	=ISNA(C8)					
9				-					
10									
11	What Doe								
10	The in four sti								
				e whether it cor					
	The #N/A	is generated v	when a funct	ion cannot worl	k properly b	ecause of r	nissing data	ι.	-
13 14	The #N/A The #N/A	is generated v can also be ty	when a funct ped in to a c	ion cannot worl cell by the user	k properly b	ecause of r	nissing data	ι.	-
13 14 15	The #N/A The #N/A but will be	is generated v can also be ty used for data	when a funct ped in to a c entry in the	ion cannot worl cell by the user future.	k properly b to indicate t	ecause of r the cell is cu	missing data urrently emp	ι.	-
13 14 15 16	The #N/A The #N/A but will be	is generated v can also be ty used for data	when a funct ped in to a c entry in the	ion cannot worl cell by the user	k properly b to indicate t	ecause of r the cell is cu	missing data urrently emp	ι.	-
13 14 15 16	The #N/A The #N/A but will be	is generated v can also be ty used for data	when a funct ped in to a c entry in the	ion cannot worl cell by the user future.	k properly b to indicate t	ecause of r the cell is cu	missing data urrently emp	ι.	-
13 14 15 16 17 18	The #N/A The #N/A but will be The function	is generated v can also be ty used for data on is normally	when a funct ped in to a c entry in the	ion cannot worl cell by the user future.	k properly b to indicate t	ecause of r the cell is cu	missing data urrently emp	ι.	-
12 13 14 15 16 17 18 19	The #N/A The #N/A but will be The functio	is generated v can also be ty used for data on is normally	when a funct ped in to a c entry in the	ion cannot worl cell by the user future.	k properly b to indicate t	ecause of r the cell is cu	missing data urrently emp	ι.	-
13 14 15 16 17 18 19	The #N/A The #N/A but will be The function	is generated v can also be ty used for data on is normally	when a funct ped in to a c entry in the	ion cannot worl cell by the user future.	k properly b to indicate t	ecause of r the cell is cu	missing data urrently emp	ι.	-
13 14 15 16 17 18	The #N/A The #N/A but will be The function	is generated v can also be ty used for data on is normally ellToTest)	when a funct ped in to a c entry in the	ion cannot worl cell by the user future.	k properly b to indicate t	ecause of r the cell is cu	missing data urrently emp	ι.	-

	A	B	С	D	E	F	G
L	IS	NONTE	хт		l		1
2							
3	1	1	Item To Test	Is It A Number?	1		
4	1		10	TRUE	=ISNONTEXT(C4)		
5	1		Hello	FALSE	=ISNONTEXT(C5)		
6	1			TRUE	=ISNONTEXT(C6)		
7			1-Jan-98	TRUE	=ISNONTEXT(C7)		
8			100	FALSE	=ISNONTEXT(C8)		
9							
0		What Does					
1					nether it is a number, ra		
2 3					entries are used in ca typing the letter O inst		
<u>3</u> 4					tion such as the =IF()		
.4	1	The functio	in is normally us		tion such as the -it ()	Turicuon.	
.6		Syntax					
7	1 '		EXT(CellToTest	:)			
.8	1		,	,			
9	1	Formatting	g				
0		No special	formatting.				
0	-						
1							
1 2		Examples					
1 2 3	1	The followi			etailer to calculate the s	selling price	
1 2 3 4	1	The followi		by an electrical re lying price and the		selling price	
1 2 3 4 5	1	The following of an item b	based on the bu	lying price and the	shop mark-up.		
1 2 3 4 5 6	1	The following of an item b	based on the bu Table 1 shows	the #VALUE! error	shop mark-up. r generated when a nu		ed
1 2 3 4 5 6	1	The following of an item b	based on the bu Table 1 shows	lying price and the	shop mark-up. r generated when a nu		ed
1 2 3 4 5 6 7	1	The following of an item b	based on the bu Table 1 shows using the letter	the #VALUE! error	shop mark-up. r generated when a nu		ed
2 2 3 24 25 26 27 8	1	The following of an item b	based on the bu Table 1 shows using the letter Table 1	the #VALUE! error O instead of the z	e shop mark-up. r generated when a nu ero 0.	mber, 300, is enter	ed
1 2 3 4 5 6 7 8 9	1	The following of an item b	based on the bu Table 1 shows using the letter Table 1 Item	the #VALUE! error O instead of the z Buying Price	e shop mark-up. r generated when a nu ero 0. <u>Mark-up</u>	mber, 300, is enter Profit	ed
1 2 3 4 5 6 7 8 9 0	1	The following of an item b	based on the bu Table 1 shows using the letter Table 1	the #VALUE! error O instead of the z Buying Price 400	shop mark-up. r generated when a nu ero 0. <u>Mark-up</u> 150%	mber, 300, is entero Profit 600	ed
1 2 3 4 5 6 7 8 9 0 1	1	The following of an item b	based on the bu Table 1 shows using the letter Table 1 Item Radio	the #VALUE! error O instead of the z Buying Price	e shop mark-up. r generated when a nu ero 0. <u>Mark-up</u>	mber, 300, is enter Profit	ed =D32*E32
1 2 3 4 5 6 7 8 9 0 1 2	1	The following of an item b	based on the bu Table 1 shows using the letter Table 1 Item Radio TV	the #VALUE! error O instead of the z Buying Price 400 800	e shop mark-up. r generated when a nu ero 0. <u>Mark-up 150%</u> 200%	mber, 300, is entero Profit 600 1600	
1 2 3 4 5 6 7 8 8 9 0 1 2 2	1	The following of an item b	based on the bu Table 1 shows using the letter Table 1 Item Radio TV	the #VALUE! error O instead of the z Buying Price 400 800	e shop mark-up. r generated when a nu ero 0. <u>Mark-up 150%</u> 200%	mber, 300, is entero Profit 600 1600	
$ \begin{array}{r} 1 \\ 2 \\ 3 \\ 4 \\ 5 \\ 6 \\ 7 \\ 8 \\ 9 \\ 0 \\ 1 \\ 2 \\ 3 \end{array} $	1	The followi of an item b	based on the bu Table 1 shows using the letter Table 1 Item Radio TV Video	the #VALUE! error O instead of the z Buying Price 400 800 300	e shop mark-up. r generated when a nu ero 0. <u>Mark-up 150%</u> 200%	mber, 300, is enter Profit 600 1600 #VALUE!	=D32*E32
21 22 23 24 25 26 27 28 29 30 31 32 33 33	1	The followi of an item b	based on the bu Table 1 shows using the letter Table 1 Item Radio TV Video Table 2 shows	the #VALUE! error O instead of the z Buying Price 400 800 300	e shop mark-up. r generated when a nu ero 0. <u>Mark-up 150%</u> 200% 150%	mber, 300, is enter Profit 600 1600 #VALUE!	=D32*E32
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	1	The followi of an item b	based on the bu Table 1 shows using the letter Table 1 Item Radio TV Video Table 2 shows	the #VALUE! error O instead of the z Buying Price 400 800 300 how the error is tra	e shop mark-up. r generated when a nu ero 0. <u>Mark-up 150%</u> 200% 150%	mber, 300, is enter Profit 600 1600 #VALUE!	=D32*E32
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	1	The followin of an item b	based on the bu Table 1 shows using the letter Table 1 Item Radio TV Video Table 2 shows	the #VALUE! error O instead of the z Buying Price 400 800 300 how the error is tra	e shop mark-up. r generated when a nu ero 0. <u>Mark-up 150%</u> 200% 150%	mber, 300, is enter Profit 600 1600 #VALUE!	=D32*E32
1 22 3 4 5 6 7 8 8 9 60 1 2 3 3 4 5 5 6 6 7 6 6 7	1	The followin of an item b	Table 1 shows using the letter Table 1 Item Radio TV Video Table 2 shows the =IF() function	the #VALUE! error O instead of the z Buying Price 400 800 300 how the error is tra	e shop mark-up. r generated when a nu ero 0. <u>Mark-up 150%</u> 200% 150% apped using the =ISNC on. <u>Mark-up</u>	mber, 300, is enter Profit 600 1600 #VALUE!	=D32*E32
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38	1	The followin of an item b	Table 1 shows using the letter Table 1 Item Radio TV Video Table 2 shows the =IF() function Table 2 Item Radio	the #VALUE! error O instead of the z Buying Price 400 800 300 how the error is tra on in the calculation Buying Price 400	e shop mark-up. r generated when a nu ero 0. <u>Mark-up 150%</u> 200% 150% apped using the =ISNC on. <u>Mark-up 150%</u>	mber, 300, is enter Profit 600 1600 #VALUE! DNTEXT function at Profit 600	=D32*E32
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 33 34 35 36 37 38 39	1	The followin of an item b	Table 1 shows using the letter Table 1 Item Radio TV Video Table 2 shows the =IF() function Table 2 Item Radio TV	the #VALUE! error O instead of the z Buying Price 400 800 300 how the error is tra on in the calculation Buying Price 400 800	e shop mark-up. r generated when a nu ero 0. <u>Mark-up 150%</u> 200% 150% apped using the =ISNC on. <u>Mark-up 150%</u> 200%	mber, 300, is entere Profit 600 #VALUE! DNTEXT function an Profit 600 1600	=D32*E32
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 33 34 35 36 37 38 39 40 41	1	The followin of an item b	Table 1 shows using the letter Table 1 Item Radio TV Video Table 2 shows the =IF() function Table 2 Item Radio	the #VALUE! error O instead of the z Buying Price 400 800 300 how the error is tra on in the calculation Buying Price 400 800 300	e shop mark-up. r generated when a nu ero 0. <u>Mark-up 150%</u> 200% 150% apped using the =ISNC on. <u>Mark-up 150%</u>	Profit 600 1600 #VALUE! DNTEXT function an Profit 600 1600 Retype the Price	=D32*E32

	А	В	С	D	E	F	G	Н	I		J
1	ISN	IUMBE	R								
2											
3				Cell Entry	Result						
4				1	TRUE	=ISNUMB	ER(D4)				
5				1-Jan-98	TRUE	=ISNUMB					
6					FALSE	=ISNUMB					
7				#DIV/0!	FALSE	=ISNUMB					
8				Hello	FALSE	=ISNUMB	ER(D8)				
9											
10		What Doe									
11				s a cell or c					ic value.		Ţ
12				n is a nume							
13		If the cell c	or calculatio	n is not num	neric, or is b	plank, the re	sult FALSE	is shown.			
14		_									
15		Syntax									
16			ER(CellToT								
17		The cell to	test can be	a cell refer	ence or a c	alculation.					
18											
19		Formattin		ie wee elect							
20		No special	formatting	is needed.							
21 22		Tyomple									
22		Example	ing table we	as used by a	norconnol	doportmon	t to lookup t	ho colony	of on omnly	01/00	
23				entered as				life Salary (n an empi	oyee.	
24				nction has b				try mada	and then		
26				h VLOOKU			e type of er	illy made,			
27											
28			ID No.	Name	Salary	1					
29			10 110.	Alan	£10,000	1					
30			2	Eric	£12,000						
31			3	Carol	£8,000						
32			4	Bob	£15,000						
33			5	David	£12,000						
34				Duvid	512,000	1					
35	I	Type F	Employee N	ame or ID ·	eric	1					
36		1963		Salary is :	£12,000						
27									0.000 0 0		

37 =IF(ISNUMBER(E35),VLOOKUP(E35,C29:E33,3,FALSE),VLOOKUP(E35,D29:E33,2,FALSE))

ISODD

									U	
	Α	В	С	D	E	F	G	Н	I	J
1	IS	ODD							•	
2										
3	1		Number	Is it Odd	1					
4	1		1	1	=ISODD(C4)					
5			2	0	=ISODD(C5)					
6			2.5	0	=ISODD(C6)					
7			2.6	0	=ISODD(C7)					
8			3.5	1	=ISODD(C8)					
9			3.6	1	=ISODD(C9)					
10			Hello	#VALUE!	=ISODD(C10)					
11	-		1-Feb-98	1	=ISODD(C11)					
12			1-Feb-96	0	=ISODD(C12)					
13	-									
14	-									
15		What Does		abor to dotorn	nine whether it is	odd				•
16 17	-				even number is					
18			lecimal fractio			SHOWH as r	ALSE.			
10	-		lates can be o	•	u.					
20	-		ext entries res		UELerror					
21										
22	1	Syntax								
23	1 '		CellToTest)							
24	1	(·	,							
25	1	Formatting	g							
26			formatting is I	required.						
		•	5	·						

ISREF

	A B	С	D	E	F	G	Н	I
1	ISREF							•
2								
3				=ISREF(A1)				
4				=ISREF(B99)				
5			Err:508	=ISREF(Hello)				
6				=ISREF(10) =ISREF(NOW())				
8	_			=ISREF("A1")				
9			Err:508	=ISREF(XX99)				
10				· · · ·				
11	What Doe							
12	-		•	ell address, or FALS				
13	Its a bit of	an odd one	, and is normally	used in macros rat	her than on	the worksh	neet.	
14	Symtox							
15 16	Syntax	alueToTest)						
17		,		ata, but when used	on the worl	ksheet, it ca	annot be a	
18	•			II, as the reference				ction.
19								
20	Formattin	g						
21	No special	formatting	is needed.					

ISTEXT

	Α	В	С	D	E	F	G	Н	I			
1	IST	EXT										
2				_		_						
3]			Cell To Test								
4	-			Hello	TRUE	=ISTEXT(
5	-			1	FALSE	=ISTEXT(
6	-			25-Dec-98	FALSE	=ISTEXT(
7	-				FALSE	=ISTEXT(D7)					
8	What Does It Do ?											
9 10												
10												
12												
13												
14	-	Syntax										
15	=ISTEXT(CellToTest)											
16												
17		Formatting										
18		No special	formatting	is needed.								
19	-											
20		Example			<u> </u>							
21				is used by a p				e salary of a	an employee.			
22				entered as a on has been u				do and the				
23 24				h VLOOKUP		iny the type	or entry ma	iue, and ine				
25					to periorin.							
26	-		ID No.	Name	Salary							
27	-		1	Alan	£10,000							
28			2	Eric	£12,000							
29	1		3	Carol	£8,000							
30]		4	Bob	£15,000							
31			5	David	£12,000							
32												
33		Туре		Name or ID :	3							
34				he Salary is :								
35		=IF(ISTEX	(E33),VL	DOKUP(E33,I)27:E31,2,F	ALSE),VLC	JUKUP(E3:	3,C27:E31,3	S, FALSE))			

LARGE

	A B	С	D	E	F	G	Н	I	J			
1	LARGE						•					
2												
3		Values	1	Highest Value	800	=LARGE(C4:C8,1)					
4		120		2nd Highest Value		=LARGE(C4:C8,2)					
5		800		3rd Highest Value		=LARGE(
6		100		4th Highest Value		=LARGE(
7		120		5th Highest Value	100	=LARGE(C4:C8,5)					
8		250										
9												
10	What Does											
11		on examine	es a list of va	llues and picks the v	alue at a u	ser specifie	a position					
12												
13	Suptor											
14 15	Syntax	ict∩fNlumh	orcToEvami	ne,PositionToPickFi	com)				•			
15		IStOntumb			omj							
17	Formatting	1 I										
18	No special		is needed.						•			
19		. o o g										
20	Example											
21		ng table wa	as used to ca	alculate the top 3 sa	les figures	between Ja	n, Feb and	Mar.				
22		-			-							
23		Sales	Jan	Feb	Mar							
24		North	£5,000	£6,000	£4,500							
25		South	£5,800	£7,000	£3,000							
26		East	£3,500	£2,000	£10,000							
27		West	£12,000	£4,000	£6,000							
28												
29			ghest Value			(D24:F27,1)						
30			ghest Value			(D24:F27,2)						
31		3rd Hi	ghest Value	£7,000	=LARGE((D24:F27,3)						
32	NI-4-											
33	Note			ad I. aat	ula la auri la							
34				nd Lowest values wo	buid nave t	been to use						
35	the =MAX() and =MIN	I() functions.									
36			llighaat	C12 000		A-E 27)						
37			Highest	£12,000	=MAX(D2							
38			Lowest	£2,000	=MIN(D24	4:FZ7)						

LCM

	A B	С	D	Е	F	G	Н	I	J		
1	LCM								_		
2					_						
				Least							
3				Common							
		-	bers	Multiple							
4		6	20	60	=LCM(C4,D4)						
5		12 18 36 =LCM(C5,D5)									
6		34	96	1632	=LCM(C6,D6)						
7											
8	What Doe										
9					tiple, which is the	e smallest r	lumber				
10	that can be	e divided by	each of the	given numbe	ers.						
11	. .										
12	Syntax										
13	=LCM(Nur	nber1,Num	per2,Numbe	er3 through	to Number29)						
14											
15	Formattin	<u>u</u>									
16	No special	formatting i	s needed.								

	A B	С	D	F	F	G	Н				
1	LEFT	0	D		I	0		•			
2											
			Number Of		1						
3			Characters								
		Text	Required	Left String							
4	-	Alan Jones	1	A	=LEFT(C4	.D4)					
5	-	Alan Jones	2	Al	=LEFT(C5						
6		Alan Jones	3	Ala	=LEFT(C6	· · · · · · · · · · · · · · · · · · ·					
7		Cardiff	6	Cardif	=LEFT(C7						
8		ABC123	4	ABC1	=LEFT(C8	,D8)					
9											
10	What Does										
11		on displays a spe	ecified numbe	r of charact	ers from the	e left hand s	side of a				
12	piece of text.										
13	-										
14	Syntax		- 1 - 1								
15	=LEFT(Ori	ginalText,Numbe	erOfCharacter	sRequired)							
16											
17	Formatting		a al a al								
18	No special	formatting is ne	eded.								
19	Evomplo										
20 21	Example	ng table was use	ad to extract th	na first nam	o of a norse	n from thei	r full name				
22		() function was use			•			cond name			
23		of the first name									
24		() function can r		•	•						
25											
26	1	Full Name	First Name	1							
27		Alan Jones	Alan	=LEFT(C2	7,FIND(" ",0	C27)-1)					
28	1	Bob Smith	Bob		8,FIND(" ",0						
29		Carol Williams	Carol	=LEFT(C2	9,FIND(" ",(C29)-1)					
					-						

LEN

	A B	С	D	E	F	G	Н	I
1	LEN							
2								
3		Text	Length	1				
4		Alan Jones	10	=LEN(C4)				
5		Bob Smith	9	=LEN(C5)				
6		Carol Williams	14	=LEN(C6)				
7		Cardiff	7	=LEN(C7)				
8		ABC123	6	=LEN(C8)				
9								
10	What Does							
11	This function	on counts the nun	nber of char	acters, inclu	iding space	es and num	pers, in a pi	ece of text.
12	_							
13	Syntax							
14	=LEN(Text)						
15								
16	Formatting							
17	No Special	formatting is nee	ded.					
18	F							
19	Example	ala ahawa haw th		nation in un	din a farm		vtraata tha	
20		ole shows how the					xtracts the	
21 22	second har	me from a text en	try containin	ng both lirst	and second	a names.		
22		Original Text	1					
23		Carol Williams	6	=FIND(" ",	~24)			
25		Caror Williams	0	This is the		the snace		
26					0051001101	ine space.		
27		Carol Williams	8	=LEN(C24)-FIND(" " ((24)		
28		ouror winding	U			e second na	ame.	
29	1					ne overall le		complete
30						the position	•	
31					saataoang		e. ine opu	
32				=RIGHT(C	24,LEN(C2	4)-FIND(" "	C24))	
33				This is just			- 11	
34						e =RIGHT()	function to	extract
35				the rightmo				
36				the second			0.	
	1							

LOOKUP (Array)

	A B C	D	E	F	G	Н	I	J					
1	LOOKUP (Array)												
2													
3		Name	Jan	Feb	Mar								
4		Alan	10	80	97								
5		Bob	20	90	69 45								
6 7		Carol David	30 40	100 110	45 51								
8		Eric	50	120	77								
9		Francis	60	130	28								
10		Gail	70	140	73								
11					1								
12	ly	pe a Name	in this cell :	Eric									
13 14	The March va	alup for this	norson is ·	77	=LOOKUP(10)						
15			person is .			1 12,04.0	10)						
16	What Does It Do ?												
17	This function looks for	r a piece of i	information	in a list, an	ld then picks	an item fr	rom the						
18	last cell in the adjacer	nt row or col	umn.										
19		to from the	and after	ou or 1-	on on 11 !	and if	o						
20 21	It always picks the da to pick data from part						ou need						
21	to pick uata nom part	way aci055	a not, (use	VLOUKUP		/1°).							
23	The way in which the	function dec	cides wheth	ner to pick fi	rom the row o	or column	is based						
24	The way in which the function decides whether to pick from the row or column is based on the size of the table.												
25													
26	If the table has more rows than columns : the function will look down the left most column												
27				trying to find a match for the piece of information									
28				you asked it to look for. When a match is found, the function will look									
29 30													
31				across to the right most column to pick the last entry on the row.									
32													
33	If the table has the sa	. me amount	of rows an	d columns :	:								
34				the function will look down the left most column and									
35				work in just the same way as if the table had more									
36				rows than columns, as in the description above.									
37 38	If the table has more	columne th	an rows .	the function	n will look ac	ross the t	ton row tryi	na					
39			an iows .	the function will look across the top row trying to find a match for the piece of information you									
40					d it to look fo		Jan						
41				When a match is found, the function will then look									
42				down to the bottom cell of the column to pick									
43				the last en	try of the colu	umn.							
44	Suntay												
45 46	Syntax =LOOKUP(WhatToLo	okFor Rapo	IETAL ookin)									
40	The WhatToLookFor			,									
48	The RangeToLook in												
49	Be careful not to inclu					will cause	e errors.						
50													
51													
52 53	In this table there are												
<u>53</u> 54	rows than columns, so column heading of Ja			lookup ran	ading of Jan ge	IS HUL INCI							
55	not included in the loc			loonup run	50.								
56	range.	- 1-			Alan	Bob	Carol	David					
57	Jan	-		Jan	100	100	100	100					
58	Alan 100												

	Α	В	С	D	E	F	G	Н	I	J		
59		Bob	100									
60		Carol	100									
61		David	100									
62		Eric	100									
63		Fred	100									
64												
65		Formatting	g									
66		No special	formatting i	s needed.								
67			-									
68		Problems										
69	•	The list of i	nformation	to be looke	d through n	nust be sort	ed in ascer	ding order,	otherwise	errors		
70	·	will occur, o	either as #N	I/A or incori	rect results.							
71												
72	· ·	Table 1 sh	ows the Na	me column	sorted alph	abetically, 1	the results o	of using =LC	DOKUP() w	vill		
73		be correct.										
74												
75	· ·	Table 2 sh	ows the sar	ne data, bu	t not sorted	. Sometime	s the result	s will be co	rrect, but of	ther		
76	· ·	times the re	esult will be	an #N/A er	ror or incor	rect figure.						
77												
78		Table 1					Table 2					
79		Name	Jan	Feb	Mar		Name	Jan	Feb	Mar		
80		Alan	10	80	97		David	40	110	51		
81		Bob	20	90	69		Eric	50	120	77		
82		Carol	30	100	45		Alan	10	80	97		
83		David	40	110	51		Bob	20	90	69		
84		Eric	50	120	77		Carol	30	100	45		
85		Francis	60	130	28		Francis	60	130	28		
86		Gail	70	140	73		Gail	70	140	73		
87						• •						
88		Name :	Eric				Name :	Eric				
89												
90		Value :	77				Value :	77				
91	'		=LOOKUP	(C88,B80:E	E86)			=LOOKUP	(H88,G80:	J86)		
				•						,		

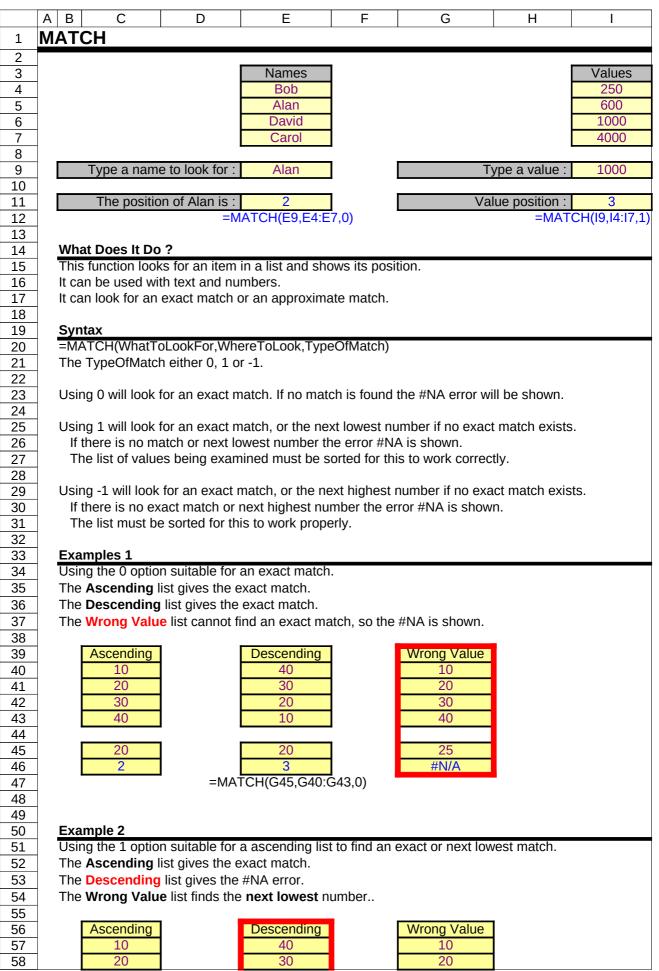
LOOKUP (Vector)

				(,			.	Ţ		
	A B	С	D	E	F	G	Н		J		
	LOOKUP	(Vector)									
2											
3			Name	Jan	Feb	Mar					
4			Alan	10	80	97					
5			Bob	20	90	69					
6			Carol	30	100	45					
7			David	40	110	51					
8			Eric	50	120	77					
9			Francis	60	130	28					
10			Gail	70	140	73					
11					E da	1					
12		Iy	pe a Name i	n this cell :	Eric						
13			L . C data		100			10 54 540			
14		The Feb Va	alue for this	person is :	120	=LOOKUP	ν(F12,D4:G	10,F4:F10)			
15											
16	What Doe	on looks for a pie	oo of inform	otion in a li	ct and that	a nieke en it	om from				
17 18		range of cells.		1alion In a 11	Si, and thei	T PICKS all IL					
10	a second i	ange of cens.									
20	Syntax										
20		(WhatToLookFo	r RangeTol	ookin Ranc	eToPickEr	om)					
22		ToLookFor should	•			011)					
23		eToLook in can b			ertical						
24		eToPickFrom mu				in it as the F	RangeTol c	okin.			
25		not to include un									
26			,								
27	Formattin	a									
28		l formatting is nee	eded.								
29	•	5									
30	Example										
31		ing example show	ws how the :	=LOOKUP() function v	vas used to	match a na	ame typed			
32	in cell G41	against the list o	of names in (C38:C43. V	vhen a mat	ch is found	the =LOOk	(UP() then			
33	picks from	the second rang	e E38:J38.								
34		e Carol is used, t				of the list of	names, an	d then			
35	the functio	n picks the third	cell from the	list of valu	es.						
36											
37		RangeToLookIn				RangeTo	PickFrom				
38		Alan		5	10	15	20	25	30		
39		Bob									
40		Carol				_					
41		David	.	Тур	e a name :	Carol					
42		Eric	. I		Value :	15		0 40 5 00			
43		Fred	J			=LOOKUF	'(G41,C38:	C43,E38:J3	8)		
44											
45											
46	Problems		la alva il ili			P	a u al a u 🖂 🕄				
47		information to be			e sorted in	ascending	order, othe	rwise errors	\$		
48	will occur,	either as #N/A or	r incorrect re	esults.							

LOWER

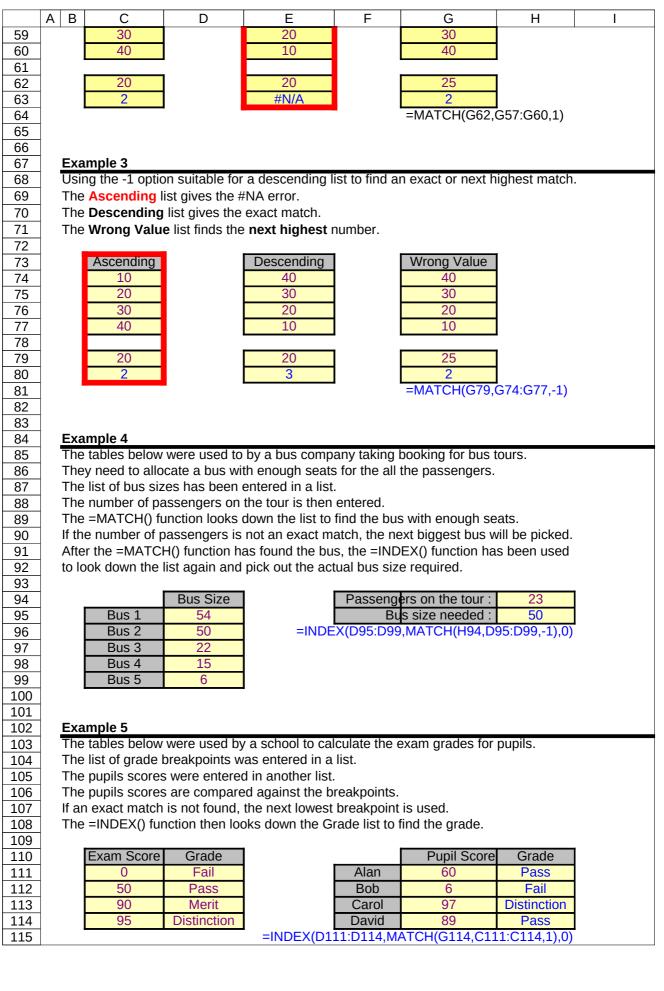
	A B	С	D	E	F	G	Н				
1	LOWER										
2				-							
3	Upper Case Text Lower Case										
4	ALAN JONES alan jones =LOWER(C4)										
5	BOB SMITH bob smith =LOWER(C5)										
6	CAROL WILLIAMS carol williams =LOWER(C6)										
7	7 CARDIFF cardiff =LOWER(C7)										
8		ABC123	abc123	=LOWER(C8)						
9				-							
10	What Does										
11	This function	on converts all charac	cters in a piece of	text to lowe	er case.						
12											
13	Syntax										
14	=LOWER(1	TextToConvert)									
15											
16	Formatting										
17	No special	formatting is needed.									

MATCH



173FuntionsofExcel.xls at 04/20/2015

MATCH



MAX

	Α	В	С	D	E	F	G	Н	I
1	M	AX							
2									
3	1		Values					Maximum	
4	1		120	800	100	120	250	800	=MAX(C4:G4)
5				_				_	
6			Dates					Maximum	
7			1-Jan-98	25-Dec-98	31-Mar-98	27-Dec-98	4-Jul-98	27-Dec-98	=MAX(C7:G7)
8									-
9	_	What Does							
10		This function	n picks the h	nighest valu	e from a list	of data.			
11	4	_							
12		Syntax							
13	4	=MAX(Rang	je1,Range2,	Range3 tl	hrough to R	ange30)			
14	4								
15		Formatting							
16	4	No special f	ormatting is	needed.					
17	4								
18		Example					al ta final that		fax
19) function n	as been use	ea to fina the i	nighest value	TOP
20	-	each region	, month and	overall.					
21 22	- 1	Sales	Jan	Feb	Mar	1 1	Region Max	1	
22	-	North	£5,000	£6,000	£4,500	-	£6,000	=MAX(C23:	=22)
23	-	South	£5,800	£7,000	£3,000	-	£7,000	-IVIAA(C23.	_23)
24	-	East	£3,500	£2,000	£10,000	-	£10,000	1	
26	-	West	£12,000	£4,000	£6,000		£12,000	1	
27	- I	West	212,000	24,000	20,000	J I	212,000	1	
28	1	Month Max	£12,000	£7,000	£10,000	1			
29	- 		,		MAX(E23:E	26)			
30	1	Overall Max	£12,000		()	,			
31	1 1		MAX(C23:E2	26)					
	_		X ² 21-1	,					

MEDIAN

	A B	С	D	E	F	G	н	I	J
1	MEDIAN	Ŭ			•	0		•	
2									
3	-	Value1	Value2	Value3	Value4	Value5	Median	1	
4	-	20	50	10	30	40	30	=MEDIAN	
5	-	20	50	10		40			(04.04)
6	-	2000	1000	10	20	8000	1000	=MEDIAN	(C6:G6)
7	-								()
8	-	10	20	40	40	40	40	=MEDIAN	(C8:G8)
9	-								
10		Value1	Value2	Value3	Value4		Median		
11]	20	40	30	10		25	=MEDIAN	(C11:F11)
12									
13	_	20	20	40	20		20	=MEDIAN	(C13:F13)
14									
15	What Does								
16	This function				• •				
17							e half the n	umbers in t	he group are
18	larger than								
19						he two ne	arest the ha	alf way poin	tare
20	added and	their aver	age is use	ed as the	median.				
21	Curretour								
22	Syntax				way what the				
23	=MEDIAN(Range1,F	ange2,Ra	ange3 th	irough to I	Range30)			
24	Formattin	~							
25	Formatting		n ic noodo	d					
26	No special	iormatting	j is neede	u.					

MID

	A B	С	D	E	F	G H
1	MID			•		· ·
2						
3			Start	How Many		
3		Text	Position	Characters	Mid String	
4		ABCDEDF	1	3	ABC	=MID(C4,D4,E4)
5	-	ABCDEDF	2	3	BCD	=MID(C5,D5,E5)
6		ABCDEDF	5	2	ED	=MID(C6,D6,E6)
7			100		N)	
8 9	-	ABC-100-DEF	100	=MID(C8,5,3		
9 10	-	ABC-200-DEF ABC-300-DEF	200 300	=MID(C9,5,3 =MID(C10,5		
10	I	ADC-300-DEF	300		,3)	
12	-	Item Size: Large	Large	=MID(C12,1	2,99)	
13	-	Item Size: Medium	Medium	=MID(C13,1		
14	-	Item Size: Small	Small	=MID(C14,1		
15	-				//	
16	What Does	s It Do ?				
17		on picks out a piece of text				
18		n needs to know at what p				
19	-	er of characters to pick ex	ceeds what is a	available, only	the availab	le characters
20	will be pick	ed.				
21						
22	Syntax				Diali	
		nalText,PositionToStartPic	cking,NumberO	iCharacters I d	рыск)	
24	Eormatting	•				
24 25	Formatting					
24 25 26		formatting is needed.				
24 25 26 27	No special	formatting is needed.				
24 25 26 27 28	No special Example 1	formatting is needed.	unction to extra	ct a post code	e from a bra	nch ID used
24 25 26 27 28 29	No special Example 1	formatting is needed. ng table uses the =MID() f	unction to extra	ct a post code	e from a bra	nch ID used
24 25 26 27 28 29 30	No special Example 1 The followin by a compa	formatting is needed. ng table uses the =MID() f				
23 24 25 26 27 28 29 30 31 32	No special Example 1 The followin by a compa It is assume	formatting is needed. ng table uses the =MID() fr any.	ow the same for			
24 25 26 27 28 29 30 31 32 33	No special Example 1 The followin by a compa It is assume	formatting is needed. ng table uses the =MID() f any. ed that all branch ID's follo on being in the 5th and 6th	ow the same for positions.	mat with the l		
24 25 27 28 29 30 31 32 33 33 34	No special Example 1 The followin by a compa It is assume	formatting is needed. ng table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID	ow the same for positions. Postal Region	mat with the l	etters identi	
24 25 27 28 29 30 31 32 33 34 35	No special Example 1 The followin by a compa It is assume	formatting is needed. ng table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476	ow the same for positions. Postal Region CF	mat with the le	etters identi ,2)	
24 25 26 27 28 29 30 31 32 33 33 34 35 36	No special Example 1 The followin by a compa It is assume	formatting is needed. ng table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476 DRS-WA-842	ow the same for positions. Postal Region CF WA	mat with the l =MID(C35,5 =MID(C36,5	etters identi ,2) ,2)	
24 25 26 27 28 29 30 31 32 33 32 33 34 35 36 37	No special Example 1 The followin by a compa It is assume	formatting is needed. ng table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476	ow the same for positions. Postal Region CF	mat with the le	etters identi ,2) ,2)	
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38	No special Example 1 The followin by a compa It is assume	formatting is needed. ng table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476 DRS-WA-842	ow the same for positions. Postal Region CF WA	mat with the l =MID(C35,5 =MID(C36,5	etters identi ,2) ,2)	
24 25 26 27 28 29 30 31 32 33 33 34 35 36 37 38 39	No special Example 1 The followin by a compa It is assum postal regio	formatting is needed. ng table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476 DRS-WA-842 HLT-NP-190	ow the same for positions. Postal Region CF WA	mat with the l =MID(C35,5 =MID(C36,5	etters identi ,2) ,2)	
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	No special Example 1 The followin by a compa It is assum postal regio	formatting is needed. ng table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476 DRS-WA-842 HLT-NP-190	w the same for positions. Postal Region CF WA NP	mat with the l =MID(C35,5 =MID(C36,5 =MID(C37,5	etters identi ,2) ,2) ,2)	ifying the
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41	No special <u>Example 1</u> The followin by a compa It is assume postal region <u>Example 2</u> This examp	formatting is needed. ng table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476 DRS-WA-842 HLT-NP-190	w the same for positions. Postal Region CF WA NP	mat with the l =MID(C35,5 =MID(C36,5 =MID(C37,5 of variable lei	etters identi ,2) ,2) ,2) ngth, which	ifying the
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42	No special Example 1 The followin by a compa It is assume postal region Example 2 This example a piece of t	formatting is needed. ng table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476 DRS-WA-842 HLT-NP-190 ole shows how to extract a ext which has no standard	w the same for positions. Postal Region CF WA NP	mat with the l =MID(C35,5 =MID(C36,5 =MID(C37,5 of variable lei	etters identi ,2) ,2) ,2) ngth, which	ifying the
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43	No special Example 1 The followin by a compa It is assume postal region Example 2 This example a piece of t	formatting is needed. ng table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476 DRS-WA-842 HLT-NP-190	w the same for positions. Postal Region CF WA NP	mat with the l =MID(C35,5 =MID(C36,5 =MID(C37,5 of variable lei	etters identi ,2) ,2) ,2) ngth, which	ifying the
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44	No special Example 1 The followin by a compa It is assume postal region Example 2 This example a piece of t	formatting is needed. ng table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476 DRS-WA-842 HLT-NP-190 ole shows how to extract a ext which has no standard	w the same for positions. Postal Region CF WA NP	mat with the l =MID(C35,5 =MID(C36,5 =MID(C37,5 of variable lei	etters identi ,2) ,2) ,2) ngth, which	ifying the
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43	No special Example 1 The followin by a compa It is assume postal region Example 2 This example a piece of t	formatting is needed. ng table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476 DRS-WA-842 HLT-NP-190 ble shows how to extract a ext which has no standard ro slash / symbols.	ow the same for a positions. Postal Region CF WA NP	mat with the l =MID(C35,5 =MID(C36,5 =MID(C37,5 of variable lei	etters identi ,2) ,2) ,2) ngth, which	ifying the
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45	No special Example 1 The followin by a compa It is assume postal region Example 2 This example a piece of t	formatting is needed. ng table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476 DRS-WA-842 HLT-NP-190 ple shows how to extract a ext which has no standard ro slash / symbols. Full Branch Code	ow the same for a positions. Postal Region CF WA NP In item which is format, other t	mat with the l =MID(C35,5 =MID(C36,5 =MID(C37,5 of variable lei	etters identi ,2) ,2) ,2) ngth, which	ifying the
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47	No special Example 1 The followin by a compa It is assume postal region Example 2 This example a piece of t	formatting is needed. Ing table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476 DRS-WA-842 HLT-NP-190 DIE shows how to extract a ext which has no standard ro slash / symbols. Full Branch Code DRS/STC/872 HDRS/FC/111 S/NORTH/874	ow the same for positions. Postal Region CF WA NP In item which is format, other t Postal Region STC	mat with the l =MID(C35,5 =MID(C36,5 =MID(C37,5 of variable lei	etters identi ,2) ,2) ,2) ngth, which	ifying the
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	No special Example 1 The followin by a compa It is assume postal region Example 2 This example a piece of t	formatting is needed. Ing table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476 DRS-WA-842 HLT-NP-190 DIE shows how to extract a ext which has no standard to slash / symbols. Full Branch Code DRS/STC/872 HDRS/FC/111 S/NORTH/874 HQ/K/875	ow the same for a positions. Postal Region CF WA NP In item which is format, other the Postal Region STC FC NORTH K	mat with the l =MID(C35,5 =MID(C36,5 =MID(C37,5 of variable lei	etters identi ,2) ,2) ,2) ngth, which	ifying the
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	No special Example 1 The following by a comparison It is assume postal region Example 2 This example a piece of the between two	formatting is needed. Ing table uses the =MID() fr any. ed that all branch ID's folic on being in the 5th and 6th Branch ID DRS-CF-476 DRS-WA-842 HLT-NP-190 DIE shows how to extract a ext which has no standard to slash / symbols. Full Branch Code DRS/STC/872 HDRS/FC/111 S/NORTH/874 HQ/K/875 SPECIAL/UK & FR/876	ow the same for a positions. Postal Region CF WA NP n item which is format, other t Postal Region STC FC NORTH K UK & FR	mat with the left =MID(C35,5 =MID(C36,5 =MID(C37,5 of variable left han the requir	etters identi ,2) ,2) ngth, which red text is a	ifying the is inside lways
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	No special Example 1 The following by a comparison It is assume postal region Example 2 This example a piece of the between two	formatting is needed. Ing table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476 DRS-WA-842 HLT-NP-190 DIE shows how to extract a ext which has no standard to slash / symbols. Full Branch Code DRS/STC/872 HDRS/FC/111 S/NORTH/874 HQ/K/875	ow the same for a positions. Postal Region CF WA NP n item which is format, other t Postal Region STC FC NORTH K UK & FR	mat with the left =MID(C35,5 =MID(C36,5 =MID(C37,5 of variable left han the requir	etters identi ,2) ,2) ngth, which red text is a	ifying the is inside lways
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52	No special Example 1 The followin by a compa It is assume postal region Example 2 This example a piece of t between two =Mil	formatting is needed. Ing table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476 DRS-WA-842 HLT-NP-190 DIE shows how to extract a ext which has no standard to slash / symbols. Full Branch Code DRS/STC/872 HDRS/FC/111 S/NORTH/874 HQ/K/875 SPECIAL/UK & FR/876 D(C50,FIND("/",C50)+1,F	ow the same for a positions. Postal Region CF WA NP n item which is format, other t Postal Region STC FC NORTH K UK & FR ND("/",C50,FIN	mat with the la =MID(C35,5 =MID(C36,5 =MID(C37,5 of variable len han the requir han the requir	etters identi ,2) ,2) ngth, which red text is a	ifying the is inside lways
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53	No special Example 1 The followin by a compa It is assume postal region Example 2 This example a piece of t between two =Mil	formatting is needed. Ing table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476 DRS-WA-842 HLT-NP-190 DIE shows how to extract a ext which has no standard to slash / symbols. Full Branch Code DRS/STC/872 HDRS/FC/111 S/NORTH/874 HQ/K/875 SPECIAL/UK & FR/876 ID(C50,FIND("/",C50)+1,F Find the first /, plus 1 for t	w the same for positions. Postal Region CF WA NP n item which is format, other t Postal Region STC FC NORTH K UK & FR ND("/",C50,FIN he Start of the o	mat with the la =MID(C35,5 =MID(C36,5 =MID(C37,5 of variable len han the requir han the requir	etters identi ,2) ,2) ngth, which red text is a	ifying the is inside lways
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54	No special Example 1 The followin by a compa It is assume postal region Example 2 This example a piece of t between two =Mil	formatting is needed. Ing table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476 DRS-WA-842 HLT-NP-190 DRS-WA-842 HLT-NP-190 DIE shows how to extract a ext which has no standard to slash / symbols. Full Branch Code DRS/STC/872 HDRS/FC/111 S/NORTH/874 HQ/K/875 SPECIAL/UK & FR/876 D(C50,FIND("/",C50)+1,F Find the first /, plus 1 for t Find the second /, occurring	w the same for positions. Postal Region CF WA NP n item which is format, other t Postal Region STC FC NORTH K UK & FR IND("/",C50,FIN he Start of the ong after the first	mat with the left =MID(C35,5 =MID(C36,5 =MID(C37,5) of variable left han the require han the require [] [] [] [] [] [] [] [] [] [] [] [] []	etters identi ,2) ,2) ,2) ngth, which red text is a	ifying the is inside lways
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53	No special Example 1 The followin by a compa- It is assume postal region Example 2 This example a piece of the between two =Mil	formatting is needed. Ing table uses the =MID() fr any. ed that all branch ID's follo on being in the 5th and 6th Branch ID DRS-CF-476 DRS-WA-842 HLT-NP-190 DIE shows how to extract a ext which has no standard to slash / symbols. Full Branch Code DRS/STC/872 HDRS/FC/111 S/NORTH/874 HQ/K/875 SPECIAL/UK & FR/876 ID(C50,FIND("/",C50)+1,F Find the first /, plus 1 for t	ow the same for a positions. Postal Region CF WA NP In item which is format, other the Postal Region STC FC NORTH K UK & FR IND("/",C50,FIN he Start of the of a fter the first e text to extract,	mat with the left =MID(C35,5 =MID(C36,5 =MID(C37,5) of variable left han the require han the require [] [] [] []("/",C50)+1) code. / by subtractin	etters identi ,2) ,2) ,2) ngth, which red text is a	ifying the is inside lways

MIN

	Α	В	С	D	E	F	G	Н	I
1	Μ	Ν							
2									
3	1		Values					Minimum	
4			120	800	100	120	250	100	=MIN(C4:G4)
5									
6			Dates					Maximum	
7			1-Jan-98	25-Dec-98	31-Mar-98	27-Dec-98	4-Jul-98	1-Jan-98	=MIN(C7:G7)
8									
9		What Does							
10		This functior	n picks the lo	owest value	from a list of	of data.			
11	-	Company							
12		Syntax	1 Dengel F	Doward th	rough to Do	(marc 20)			
13	-	=MIN(Range	ei,Rangez,F	kanges in	rough to Ra	ingesu)			
14 15	-	Formatting							
15		No special f	ormatting is	needed					
17		No special n	Simating 13	necucu.					
18		Example							
19			ing example	the =MIN()	function ha	is been used	d to find the lo	west value fo	or
20		each region.							
21	1	U A							
22		Sales	Jan	Feb	Mar	1	Region Min		
23		North	£5,000	£6,000	£4,500		£4,500	=MIN(C23:E	23)
24		South	£5,800	£7,000	£3,000		£3,000		
25		East	£3,500	£2,000	£10,000		£2,000		
26		West	£12,000	£4,000	£6,000		£4,000		
27									
28		Month MIN	£3,500	£2,000	£3,000				
29		_		=	MIN(E23:E2	26)			
30		Overall MIN							
31		=	MIN(C23:E2	6)					

MINUTE

A B C D E F G 1 MINUTE 2 3 4 4 5 6 7 9:15:00 PM 15 6 7.2 28 =MINUTE(D6) 9 1.52 28 =MINUTE(D7) 9 10 What Does It Do?	H	I
2 3 Number Minute 4 4/20/2015 9:04 =MINUTE(D4) 5 9:15:00 PM 15 6 0.02 28 7 0.52 28 9 1.52 28 9 9		
2 3 Number Minute 4 4/20/2015 9:04 =MINUTE(D4) 5 9:15:00 PM 15 6 0.02 28 7 0.52 28 8 1.52 28 9 1.52 28		
3 Number Minute 4 4/20/2015 9:04 4 =MINUTE(D4) 5 9:15:00 PM 15 =MINUTE(D5) 6 0.02 28 =MINUTE(D6) 7 0.52 28 =MINUTE(D7) 8 1.52 28 =MINUTE(D8) 9 9		
4 4/20/2015 9:04 4 =MINUTE(D4) 5 9:15:00 PM 15 =MINUTE(D5) 6 0.02 28 =MINUTE(D6) 7 0.52 28 =MINUTE(D7) 8 1.52 28 =MINUTE(D8)		
5 9:15:00 PM 15 =MINUTE(D5) 6 0.02 28 =MINUTE(D6) 7 0.52 28 =MINUTE(D7) 8 1.52 28 =MINUTE(D8) 9 =MINUTE(D8) =MINUTE(D8)		
6 0.02 28 =MINUTE(D6) 7 0.52 28 =MINUTE(D7) 8 1.52 28 =MINUTE(D8) 9		
7 0.52 28 =MINUTE(D7) 8 1.52 28 =MINUTE(D8) 9		
8 1.52 28 =MINUTE(D8) 9		
9		
11 The function will show the minute of the hour based upon a time or a number.		
12 Only the fraction part of the number is used as it is this which relates to time of day.		
13		
14 Syntax		
15 =MINUTE(Number)		
16		
17 Formatting		
17 Formating 18 The result will be shown as a normal number between 0 and 59.		
19 The result will be shown as a hormal humber between 0 and 39.		
20 Example		
20 Example 21 The =REPT() function has been used to make a digital display for the current time.		
22 The time functions of =HOUR(), =MINUTE() and =SECOND() have been used in conjunction	on	
23 with the =NOW() as the basis for the number of repeats.	JII	
24 To update the clock press the function key F9.		
28 Minute 04		
30 =REPT(" ",HOUR(NOW()))&" "&TEXT(HOUR(NOW()),"00")		
31 =REPT(" ",MINUTE(NOW()))&" "&TEXT(MINUTE(NOW()),"0(
32 =REPT(" ",SECOND(NOW()))&" "&TEXT(SECOND(NOW()),"	00)	
33		
34 25 Balated Information		
35 Related Information		
36 To convert a time in hh:mm format to decimal format.		
37		
38 Enter a time in hh:mm format : 2:45		
$\frac{39}{10}$		
40 The same time converted to a decimal : 2.75 =F38*24		
41 42 To extract the hours as a decimal : 2 =INT(F38*24)		
$\frac{43}{14}$		
44 To extract the minutes as a decimal : 0.75 =MOD(F38*24,1)		
45		
46 47 To convert a time in desimal format to hhimm format		
47 To convert a time in decimal format to hh:mm format.		
48		
49 Enter a time in decimal format : 3.75		
50 51 The same time converted to be the formatic $= -540/24$		
51The same time converted to hh:mm format is :3:45=F49/2452		
54		
EE To ovtroot the minutes in hhumm formet (0.45 - MOD/540.4)/04		
55 To extract the minutes in hh:mm format : 0:45 =MOD(F49,1)/24		
56		

173Fi	IntionsofEx	cel.xls at 04	4/20/2015	Μ	INVERSE			P	age 114 of	195
	A	В	С	D	E	F	G	Н	I	J
1	MINVERSE	1					•			
2										
3			3	5			1	0		
4			1	2			0	1		
5										
6										
7			2	-5						
8			-1	3						
9										
10										
11			3							
12			4							
13]									
14			Err:502							
15			Err:502							

	A B C D E F G H I J
1	MMULT
2	
3	What Does It Do ?
4	This function multiplies one range of values with another range of values.
5	The ranges do not have to be of equal size.
6	The dimensions of the result range is in direct proportion to dimensions of the two input ranges.
7	It is an Array function and must be entered using the Ctrl+Shift+Enter combination.
8	
9	Syntax
10	=MMULT(Range1,Range2)
11	
12	Formatting
13	No special formatting is needed.
14	Evenuela
15	Example The following tables were used by a company producing boxes of chocolates.
16	
17 18	The types of chocolate produced were Milk, Dark and White. The company boxed the chocolates in three differing mixtures of Milk, Dark and White.
18	In the run up to Christmas customers ordered various quantities of each box.
20	The chocolate company now needed to know what quantity of each type of chocolate to produce.
20	The =MMULT() function was used to multiply the contents of boxes by the customer orders.
22	The result of the =MMULT() is the total number of each type of chocolate to produce.
23	
24	Chocolates in the box
25	Size Milk Dark White
26	Giant 50 50 50
27	Standard 30 20 10
28	Economy 20 5 5
29	
30	Customers Orders
31	Giant Standard Economy
32	300 400 500
33	
34	Quantity To Produce
35	Milk Dark White
36 37	37,000 25,500 21,500
37	{=MMULT(C32:E32,C26:E28)}
39	In all three cells
40	
41	How It Was Done
42	Cells C36 to E36 were selected.
43	The formula =MMULT(C32:E32,C26:E28) was typed, (but not yet entered).
44	The keys Ctrl+Shift+Enter were pressed to confirm the entry as an array.
45	The formula then showed the correct result.
46	
47	Getting The Dimensions Correct
48	The dimensions of the Result range are directly related to the two input ranges.
49	The number of rows in the Result should be equal to the rows in Range1.
50	The number of columns in the Result should be equal to the columns in Range2.
51	Evenue 2
52	Example 2 The following tables were used by the chocolate company to calculate the amount of
53 54	ingredients needed to produce batches of chocolate.
54 55	ווישובעוברוגא ווכבעבע נט אוטעענב אמנגוופא טו גווטגטומנב.
56	The company has four factories, each of which has to order enough Butter, Eggs and Sugar
55	to ensure they can meet production targets.

58 Formula in the planned production of Milk and Dark chocolate for each factory. Range 2 contains the amount Butter, Eggs and Sugar needed to make 1 unit of Milk or Plain. The Result range shows the quantities of each ingredient that will have to be ordered to meet the production target. 63 64 64 Note the depth of the Result is the same as the depth of Range 1, and the width of the Result is the same as the width of Range 2. 66 67 68 Range 1 69 Range 1 70 Factory 2 71 Factory 2 72 73 73 74 75 Factory 1 70 Factory 1 72 0 73 74 74 Result 75 Factory 1 76 77 78 10 79 20 80 1 81 (=MMULT(C69:D72,G69:170)) 82 1 84 85 86 67 77 7 78 7 78 7 79 10 <		A B	C	D	E	F	G	Н	I	J
60 Range 2 contains the amount Butter, Eggs and Sugar needed to make 1 unit of Milk or Plain. 61 The Result range shows the quantities of each ingredient that will have to be ordered to meet the production target. 63 64 64 Note the depth of the Result is the same as the depth of Range 1, and the width of the Result is the same as the width of Range 2. 66 67 70 Range 1 Factory 1 20 70 Factory 2 71 Factory 2 72 73 73 74 74 Result 75 Factory 1 20 76 Factory 2 10 73 74 Result 75 Factory 1 20 10 77 Factory 2 20 10 78 Factory 1 20 60 200 77 Factory 2 22 62 205 78 Factory 3 20 40 125 79 80 [[[10 81 In all cells	58					•				
61 The Result range shows the quantities of each ingredient that will have to be ordered to meet the production target. 63 Note the depth of the Result is the same as the depth of Range 1, and the width of the Result is the same as the width of Range 2. 66 67 Range 1 68 Production Milk 69 Factory 1 20 0 70 Factory 2 20 1 71 Factory 3 10 5 72 Factory 4 20 10 73 74 Result 75 Factory 2 22 62 76 Factory 1 20 60 200 77 Factory 2 22 62 205 78 Factory 4 40 80 250 81 In all cells In all cells 1 83 1 In all cells 1 1 84 1 1 1 1 1 86 Hint To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2	59	Range 1 con	itains the pla	nned produ	uction of Mi	lk and Dark c	hocolate fo	r each facto	ory.	
62 meet the production target. 63 Note the depth of the Result is the same as the depth of Range 1, and the width of the Result is the same as the width of Range 2. 66 67 Range 1 Range 2. 68 Production Milk Dark Ingredients Butter Eggs Sugar 69 Factory 1 20 0 70 Factory 2 20 1 71 Factory 4 20 10 73 74 Result Result 73 74 Result Result 75 Ingredients To Order Butter Eggs Sugar 5 76 Factory 1 20 60 77 Factory 2 22 62 205 78 Factory 3 20 40 125 79 Factory 4 40 80 250 80 81 1 1 1 83 84 1 1 1 1 84 1 1 1 1 1 1 86 Hint 1 1 1 1 1	60	Range 2 con	itains the am	ount Butte	r, Eggs and	Sugar neede	ed to make	1 unit of Mi	lk or Plain.	
63 A 64 Note the depth of the Result is the same as the depth of Range 1, and the width of the Result is the same as the width of Range 2. 66 66 67 Range 1 70 Factory 1 20 70 Factory 2 20 71 Factory 3 10 72 Factory 4 20 73 Result 75 Factory 1 20 76 Factory 2 22 78 Factory 2 22 78 Factory 3 20 80 40 80 250 81 In all cells In all cells 83 In all cells In all cells 83 10 10 84 75 Factory 4 86 Hint 10 87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2	61	The Result r	ange shows	the quantit	ies of each	ingredient that	at will have	to be order	ed to	
64 Note the depth of the Result is the same as the width of Range 1, and the width of the Result is the same as the width of Range 2. 66 Range 1 Range 2 68 Production Milk Dark Ingredients Butter Eggs Sugar 70 Factory 1 20 0 Milk 1 3 10 70 Factory 2 20 1 Milk 1 3 10 71 Factory 3 10 5 Factory 4 20 10 Dark 2 2 5 71 Factory 4 20 10 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2		meet the pro	duction targe	et.						
65 Range 1 Range 1 Range 2 68 Range 1 Range 2 68 Production Milk Dark Sugar 69 Factory 1 20 0 Ingredients Butter Eggs Sugar 70 Factory 2 20 1 3 10 Dark 2 2 5 71 Factory 3 10 5 Factory 4 20 10 Dark 2 2 5 72 Factory 3 10 5 Factory 3 10 5 5 73 Factory 4 20 10 Dark 2 2 5 73 Factory 2 20 60 200 7 Factory 2 2 62 205 7 76 Factory 2 20 60 200 20 125 Factory 3 20 40 80 250 80 81 83 83 84 84 85	63									
66 Range 1 Range 2 68 Production Milk Dark Ingredients Butter Eggs Sugar 69 Factory 1 20 0 Milk 1 3 10 70 Factory 2 20 1 Dark 2 2 5 71 Factory 3 10 5 Dark 2 2 5 71 Factory 4 20 10 Dark 2 2 5 73 74 Result Result Factory 1 20 60 200 76 Factory 1 20 60 200 20 6 200 77 Factory 2 22 62 205 6 200 6 200 6 200 6 200 6						•	nge 1, and t	he width of		
67 Range 1 Range 2 68 Production Milk Dark Ingredients Butter Eggs Sugar 69 Factory 1 20 0 Milk 1 3 10 70 Factory 2 20 1 Dark 2 2 5 71 Factory 3 10 5 Factory 4 20 10 Dark 2 2 5 73 74 Factory 4 20 10 Eesult Tigredients To Order Butter Eggs Sugar 76 Factory 1 20 60 200 Factory 2 22 62 205 78 Factory 2 22 62 205 Factory 3 20 40 125 79 Factory 4 40 80 250 80 10 10 81 In all cells In all cells 10 10 10 10 82 66 Hint To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2 10 10		the Result is	the same as	s the width	of Range 2					
68 Production Milk Dark 69 Factory 1 20 0 70 Factory 2 20 1 71 Factory 3 10 5 72 Factory 4 20 10 73 74 Result 75 Factory 1 20 60 76 Factory 1 20 60 200 77 Factory 2 22 62 205 78 Factory 3 20 40 125 79 Factory 4 40 80 250 80 81 In all cells 1 81 1 1 1 82 83 1 1 84 85 1 1 86 1 1 1 87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2										
69 Factory 1 20 0 70 Factory 2 20 1 71 Factory 3 10 5 71 Factory 4 20 10 73 74 Result 75 Factory 1 20 60 76 Factory 1 20 60 200 77 Factory 2 22 62 205 78 Factory 3 20 40 125 79 Factory 4 40 80 250 80 80 250 80 80 81 In all cells 1 1 1 83 84 1 1 10 10 85 86 Hint 1 10 10 87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2 10									-	
To Factory 2 20 1 71 Factory 3 10 5 72 Factory 4 20 10 73 74 2 2 5 73 74 20 10 10 73 74 Result 10 5 74 76 Factory 4 20 10 76 Factory 1 20 60 200 76 Factory 2 22 62 205 78 Factory 3 20 40 125 79 Factory 4 40 80 250 80 81 10 11 11 82 83 10 11 11 11 83 84 10 10 11 11 11 86 Hint 10 10 10 11 11 11 87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2 11 11 11 11							Butter			
71 Factory 3 10 5 72 73 74 20 10 73 74 20 10 8 74 Factory 4 20 10 80 76 Factory 1 20 60 200 76 Factory 2 22 62 205 78 Factory 3 20 40 125 79 Factory 4 40 80 250 80 81 [=MMULT(C69:D72,G69:170)] [n all cells] 83 84 1 1 1 85 86 Hint To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2										
72 Factory 4 20 10 73 74 Result 75 Ingredients To Order Butter Eggs Sugar 76 Factory 1 20 60 200 77 Factory 2 22 62 205 78 Factory 3 20 40 125 79 Factory 4 40 80 250 80 [-MMULT(C69:D72,G69:170)] [n all cells] [a algobra 81 [a algobra [a algobra [a algobra 83 [a algobra [a algobra [a algobra 83 [a algobra [a algobra [a algobra 84 85 [a algobra [a algobra [a algobra 87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2						Dark	2	2	5	
73 Result 75 Ingredients To Order Butter Eggs Sugar 76 Factory 1 20 60 200 77 Factory 2 22 62 205 78 Factory 3 20 40 125 79 Factory 4 40 80 250 80 81 [=MMULT(C69:D72,G69:170)] [In all cells] 82 83 [In all cells] [In all cells] 83 84 [S5] [S6] Hint 87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2					4					
Result 75 Ingredients To Order Butter Eggs Sugar 76 Factory 1 20 60 200 77 Factory 2 22 62 205 78 Factory 3 20 40 125 79 Factory 4 40 80 250 80 80 80 250 80 81 [=MMULT(C69:D72,G69:I70)] [] 1n all cells 83 84 [] [] [] [] [] 85 [] [] [] [] [] 86 Hint [] [] [] [] [] 87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2 [] [] []		Factory 4	20	10						
75 Ingredients To Order Butter Eggs Sugar 76 Factory 1 20 60 200 77 Factory 2 22 62 205 78 Factory 3 20 40 125 79 Factory 4 40 80 250 80 80 250 80 [=MMULT(C69:D72,G69:I70)] 82 83 1n all cells 1 83 1 1 1 84 1 1 1 85 86 Hint 1 87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2	-									
76 Factory 1 20 60 200 77 Factory 2 22 62 205 78 Factory 3 20 40 125 79 Factory 4 40 80 250 80 81 [=MMULT(C69:D72,G69:I70)] [] 82 83 [] [] In all cells 83 84 [] [] [] 85 86 Hint [] [] 87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2		lin arradiar	to To Ordor	Duttor		Current	1			
77 Factory 2 22 62 205 78 Factory 3 20 40 125 79 Factory 4 40 80 250 80 81 [=MMULT(C69:D72,G69:I70)] [] 82 [] In all cells [] 83 [] [] [] 84 [] [] [] 85 [] [] [] 86 [] [] [] 87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2	-	Ingrealer								
T8 Factory 3 20 40 125 79 Factory 4 40 80 250 80 81 [=MMULT(C69:D72,G69:I70)] [] 82 [] In all cells [] 83 [] [] [] [] 84 [] [] [] [] 85 [] [] [] [] 86 Hint [] [] [] [] 87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2				-						
79 Factory 4 40 80 250 80 81 {=MMULT(C69:D72,G69:I70)} [] 82 [] In all cells [] 83 [] [] [] 83 [] [] [] 84 [] [] [] 85 [] [] [] 86 [] [] [] 87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2										
80 81 82 83 83 84 85 86 87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2						-				
81 {=MMULT(C69:D72,G69:I70)} 82 In all cells 83 In all cells 84 Image: State of the s			T actory 4	40	00	230	l			
82 In all cells 83 In all cells 84 In all cells 85 In all cells 86 Hint 87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2	-			{=MMLII	T(C69·D72	G69·170)}				
83 84 85 86 87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2	-					,000.170)]				
84 85 86 87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2	-									
85 86 87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2										
86 Hint 87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2					1					
87 To get a feel for how the =MMULT() function operates, set all values in Range1 and Range2		Hint								
			for how the	=MMULT()	function op	oerates, set a	ll values in	Range1 an	d Range2	
	88	•			•	-		č	Ŭ	

MOD

	A	В	С	D	E	F	G	Н	I
1	MO	D							
2		_							
3			Number	Divisor	Remainder				
4			12	5	2	=MOD(C4,D4)			
5]		20	7	6	=MOD(C5,D5)			
6]		18	3	0	=MOD(C6,D6)			
7]		9	2	1	=MOD(C7,D7)			
8	1		24	7	3	=MOD(C8,D8)			
9									
10		Vhat Does							
11	T	his functio	on calculate	s the remai	nder after a r	number has beer	n divided by	another nu	ımber.
12									
13	S	Syntax							
14	=	MOD(Nun	nber,Diviso	r)					
15]								
16		ormatting							
17	N	lo special	formatting i	s needed.					

MODE

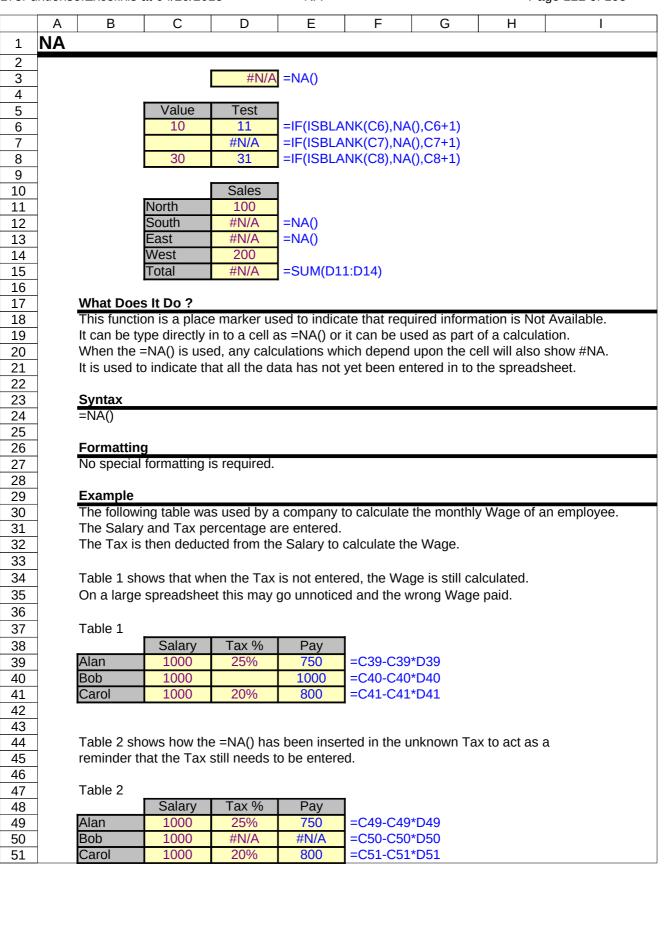
A M	_								
N	А В	С	D	E	F	G	Н	I	J
	IODE								
								-	
_		Value1	Value2	Value3	Value4	Value5	Mode		
4		20	50	10	10	40	10	=MODE(C	:4:G4)
-		40	20	40	10	40	40	=MODE(C	6.09)
-		-10	20	-10	TO	-10	-10		.0.00)
		10	10	99	20	20	10	=MODE(C	:8:G8)
		20	20	99	10	10	10	=MODE(C	
		10	20	20	99	10	10	=MODE(C	:10:G1(
_		10	20	20	40	50			10.01
-		10	20	30	40	50	#VALUE!	=MODE(C	.12:G1
-	What Doe	s It Do ?							
-		on displays	the most fre	equently oc	currina num	ber in a gr	oup of num	bers.	
		ork correctly							
	If all the va	lues in the	group are u	nique the fu	Inction show	ws the erro	r #N/A.		
_		e is more th		•			to the begir	nning	
	of the grou	p will be us	ed. (Which	is not really	an accurat	e answer!)			
_	Syntax								
_		ange1,Rang	1e2 Range3	through	to Range30)			
		unger,i tuni	jez,i tangeo	unough	to rangeou)			
	Formattin	g							
		formatting	is needed.						
	Example								
	The followi	ng table sh					20		
	The followi The shopk	eeper wants	s to keep tra	ack of the m	nost commo		ze.		
_	The followi The shopk		s to keep tra	ack of the m	nost commo		ze.		
	The followi The shopk	eeper wants	s to keep tra	ack of the m	nost commo ulate this.	nly sold siz			
	The followi The shopk The =MOD Order 001	eeper wants E() function Garmet Blouse	s to keep tra n has been n Size 10	ack of the m	nost commo ulate this.	nly sold siz	ze. dered size :	10]
	The followi The shopk The =MOD Order 001 002	eeper wants E() function Garmet Blouse Skirt	s to keep tra has been t Size 10 10	ack of the m	nost commo ulate this.	nly sold siz		10 =MODE(D] 033:D52
	The followi The shopk The =MOD Order 001 002 003	eeper wants E() function Garmet Blouse Skirt Shirt	s to keep tra has been to Size 10 10 8	ack of the m	nost commo ulate this.	nly sold siz] 933:D52
	The followi The shopk The =MOD Order 001 002 003 004	eeper wants E() function Garmet Blouse Skirt Shirt Blouse	s to keep tra has been to Size 10 10 8 10	ack of the m	nost commo ulate this. Most fre	equently ord	dered size :] 33:D52
	The followi The shopk The =MOD Order 001 002 003 004 005	eeper wants E() function Garmet Blouse Skirt Blouse Skirt	s to keep tra has been to Size 10 10 8 10 12	ack of the m	nost commo ulate this. Most fre	nly sold siz	dered size :	=MODE(D	
	The followi The shopk The =MOD Order 001 002 003 004	eeper wants E() function Garmet Blouse Skirt Shirt Blouse	s to keep tra has been to Size 10 10 8 10	ack of the m	nost commo ulate this. Most fre	equently ord	dered size :		
	Order 001 002 003 004 005 006	eeper wants E() function Garmet Blouse Skirt Blouse Skirt Dress	s to keep training to k	ack of the m	nost commo ulate this. Most fre	equently ord	dered size : 6 =COUNTI	=MODE(D] F(D33:D52,	"8")
	The followi The shopk The =MOD Order 001 002 003 004 005 006 007 008 009	eeper wants E() function Garmet Blouse Skirt Blouse Skirt Dress Shirt Blouse Dress	s to keep tra has been to Size 10 10 8 10 12 8 10 10 10 8	ack of the m	nost commo ulate this. Most fre	equently ord	dered size : 6 =COUNTI	=MODE(D	"8")
	The followi The shopk The =MOD Order 001 002 003 004 005 006 007 008 009 010	eeper wants E() function Garmet Blouse Skirt Blouse Skirt Dress Shirt Blouse Dress Shirt	s to keep tra has been to Size 10 10 8 10 12 8 10 10 8 10 10 8 10	ack of the m	nost commo ulate this. Most fre Count	equently ord t of size 8 : of size 10	dered size : 6 =COUNTI : 11 =COUNTI	=MODE(D] F(D33:D52,	"8")
	The followi The shopk The =MOD Order 001 002 003 004 005 006 007 008 009 010 011	eeper wants E() function Garmet Blouse Skirt Blouse Skirt Dress Shirt Blouse Dress Shirt Dress	s to keep tra has been to Size 10 10 8 10 12 8 10 10 8 10 10 8 10 10 12	ack of the m	nost commo ulate this. Most fre Count	equently ord	dered size : 6 =COUNTI =COUNTI =COUNTI	=MODE(D] F(D33:D52,] F(D33:D52,	"8") "10")
	The followi The shopk The =MOD Order 001 002 003 004 005 006 007 008 009 010 011 012	eeper wants E() function Garmet Blouse Skirt Blouse Skirt Dress Shirt Blouse Dress Shirt Dress Skirt	s to keep tra has been to Size 10 10 8 10 12 8 10 10 10 8 10 10 10 8 10 10 12 12 12	ack of the m	nost commo ulate this. Most fre Count	equently ord t of size 8 : of size 10	dered size : 6 =COUNTI =COUNTI =COUNTI	=MODE(D] F(D33:D52,	"8") "10")
	The followi The shopk The =MOD Order 001 002 003 004 005 006 007 008 009 010 011 012 013	eeper wants DE() function Garmet Blouse Skirt Blouse Skirt Dress Shirt Blouse Dress Shirt Dress Shirt Blouse Dress Skirt Skirt	s to keep training to k	ack of the m	nost commo ulate this. Most fre Count	equently ord t of size 8 : of size 10	dered size : 6 =COUNTI =COUNTI =COUNTI	=MODE(D] F(D33:D52,] F(D33:D52,	"8") "10")
	The followi The shopk The =MOD 001 002 003 004 005 006 007 008 009 010 011 012 013 014	eeper wants DE() function Garmet Blouse Skirt Blouse Skirt Dress Shirt Blouse Dress Shirt Dress Shirt Dress Skirt Skirt Skirt Skirt	s to keep training to k	ack of the m	nost commo ulate this. Most fre Count	equently ord t of size 8 : of size 10	dered size : 6 =COUNTI =COUNTI =COUNTI	=MODE(D] F(D33:D52,] F(D33:D52,	"8") "10")
	The followi The shopk The =MOD 001 002 003 004 005 006 007 006 007 008 009 010 011 012 013 014 015	eeper wants E() function Garmet Blouse Skirt Blouse Skirt Dress Shirt Blouse Dress Shirt Dress Shirt Dress Skirt Dress Shirt Dress	s to keep tra has been to 10 10 10 8 10 12 8 10 10 8 10 10 8 10 12 12 12 10 10 10 8 8	ack of the m	nost commo ulate this. Most fre Count	equently ord t of size 8 : of size 10	dered size : 6 =COUNTI =COUNTI =COUNTI	=MODE(D] F(D33:D52,] F(D33:D52,	"8") "10")
	The followi The shopk The =MOD 001 002 003 004 005 006 007 008 009 010 011 012 013 014	eeper wants DE() function Garmet Blouse Skirt Blouse Skirt Dress Shirt Blouse Dress Shirt Dress Shirt Dress Skirt Skirt Skirt Skirt	s to keep training to k	ack of the m	nost commo ulate this. Most fre Count	equently ord t of size 8 : of size 10	dered size : 6 =COUNTI =COUNTI =COUNTI	=MODE(D] F(D33:D52,] F(D33:D52,	"8") "10")
	The followi The shopk The =MOD Order 001 002 003 004 005 006 007 006 007 008 009 010 011 012 013 014 015 016	eeper wants E() function Garmet Blouse Skirt Blouse Skirt Dress Shirt Blouse Dress Shirt Dress Shirt Dress Skirt Dress Skirt Skirt Shirt Shirt	s to keep tra has been to 10 10 8 10 12 8 10 10 12 8 10 10 12 12 12 10 10 10 8 10 10 8 10 10 10 8 10 10 12 12 12 10 10 10 8 10 10 10 8 10 10 10 10 8 10 10 10 10 10 10 10 10 10 10 10 10 10	ack of the m	nost commo ulate this. Most fre Count	equently ord t of size 8 : of size 10	dered size : 6 =COUNTI =COUNTI =COUNTI	=MODE(D] F(D33:D52,] F(D33:D52,	"8") "10")
	The followi The shopk The =MOD Order 001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016 017 018 019	eeper wants DE() function Garmet Blouse Skirt Blouse Skirt Dress Shirt Blouse Dress Shirt Dress Skirt Skirt Skirt Skirt Skirt Shirt Blouse Shirt Dress Skirt	s to keep training to k	ack of the m	nost commo ulate this. Most fre Count	equently ord t of size 8 : of size 10	dered size : 6 =COUNTI =COUNTI =COUNTI	=MODE(D] F(D33:D52,] F(D33:D52,	"8") "10")
	The followi The shopk The =MOD Order 001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016 017 018	eeper wants E() function Garmet Blouse Skirt Blouse Skirt Dress Shirt Blouse Dress Shirt Dress Skirt Skirt Skirt Skirt Skirt Blouse Shirt Blouse Blouse	s to keep tra has been to Size 10 10 8 10 12 8 10 10 8 10 10 8 10 12 12 12 10 10 8 10 10 8 10 10 8 10 10 8 10 10 8 10 12 12 8 10 10 12 8 10 10 12 8 10 10 10 12 8 10 10 12 8 10 10 10 12 8 10 10 12 8 10 10 10 10 10 8 10 10 10 10 10 10 10 10 10 10 10 10 10	ack of the m	nost commo ulate this. Most fre Count	equently ord t of size 8 : of size 10	dered size : 6 =COUNTI =COUNTI =COUNTI	=MODE(D] F(D33:D52,] F(D33:D52,	"8") "10")
	The followi The shopk The =MOD Order 001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016 017 018 019	eeper wants DE() function Garmet Blouse Skirt Blouse Skirt Dress Shirt Blouse Dress Shirt Dress Skirt Skirt Skirt Skirt Skirt Shirt Blouse Shirt Dress Skirt	s to keep training to k	ack of the m	nost commo ulate this. Most fre Count	equently ord t of size 8 : of size 10	dered size : 6 =COUNTI =COUNTI =COUNTI	=MODE(D] F(D33:D52,] F(D33:D52,	"8") "10")

	A B	С	D	E	F	G
1	MONTH					
2				-		
3		Original Date	Month			
4		1-Jan-98	1	=MONTH(C4)		
5		1-Jan-98	December	=MONTH(C5)		
6						
7	What Does					
8	I his function	n extracts the mo	nth from a comp	olete date.		
9	0					
10	Syntax					
11	=MONTH(D	Date)				
12	Formatting					
13 14		a result will be a r	number but this	can be formatted to	o show the actual	
14	-				de mmm or mmmm	
16		sing i onnat,cens		in and using the cot		•
17	Example					
18		H function has b	een used to calc	culate the name of t	he month for your b	pirthday.
19					· · · · , · · · 	,
20	Ple	ease enter your d	ate of birth in th	e format dd/mm/yy	3/25/1962	
21		-		You were born in	January	=MONTH(F20)

	A B	С	D	E	F	G	Н	I	J		
1	MROUND										
2			_	_							
3		Number	Multiple	Rounded Value							
4		110	50	100	=MROUNI						
5		120	50	100	=MROUNI						
6		150	50	150	=MROUNI						
7		160	50	150	=MROUNI						
8		170	50	150	=MROUNI	D(C8,D8)					
9											
10	What Does										
11	This function	on rounds a	number up	or down to	the neares	t multiple s	pecified by	the user.			
12											
13	Syntax										
14	=MROUND(NumberToRound,MultipleToUse)										
15											
16	Formatting										
17	No special	formatting i	s needed.								

Ν

	A B	C	D	E	F	G	Н	I	J
1	Ν								
2									
3		Original	Converted	1					
4		1	1	=N(C4)					
5		3 1/2	3.5	=N(C5)					
6		3.5	3.5	=N(C6)					
7		3.50%	0.035	=N(C7)					
8		25-Dec-98	36154	=N(C8)					
9		TRUE	1	=N(C9)					
10	_	FALSE	0	=N(C10)					
11	_	Hello	0	=N(C11)					
12	_		0	=N(C12)					
13									
14	What Doe			-		-			
15		on converts a				value.			
16		which will not							
17		s not really ne						-	
18	naturally.	The function is	s included to	or compatibi	lity with oth	ier spreadsl	neet prograi	ns.	
19									
20	Syntax								
21	=N(Numer	ic⊨ntry)							
22		-							
23	Formattin								
24	No special	formatting is	needed.						



	A B	С	D	E	E								
1	NETWORKDA	-	D	L	I								
	NETWORKDA	13											
2		Ctart Data	Find Data	Mark Dava									
3		Start Date 1-Mar-98	End Date 7-Mar-98	Work Days 5									
4 5		25-Apr-98	30-Jul-98	69	=NETWORKDAYS(C4,D4) =NETWORKDAYS(C5,D5)								
5 6		23-Api-98 24-Dec-98	5-Jan-99	9	=NETWORKDAYS(C6,D6)								
7		24-Dec-90	J-Jaii-99	9									
8	What Does It Do?												
9	This function will c		er of working days	between two d	ates.								
10		It will exclude weekends and any holidays.											
11													
12	Syntax												
13	=NETWORKDAYS	S(StartDate,EndDa	ate,Holidays)										
14	Holidays : This is	s a list of dates wh	ich will be exclude	d from the calc	ulation, such as Xmas								
15	and Bank holiday	ys.											
16													
17	Formatting												
18	The result will be s	hown as a numbe	r.										
19													
20	Note												
21					n-98 and 5-Jan-98 will								
22	give a result of 4. I	o correct this add	\perp to the result. =N	IETWORKDAY	S(Start,End,Holidays)+1								
23 24	Example												
24	The following exan	nnle shows how a	list of Holidays ca	n ha created									
26	The following exam	inple shows now a	list of Holidays ca	in be created.									
27	Start Date	End Date	Work Days	1									
28	Mon 02-Mar-98	Fri 06-Mar-98	5	=NETWORK	DAYS(B28,C28,C33:C37)								
29	Mon 02-Mar-98	Fri 13-Mar-98	10		DAYS(B29,C29,C33:C37)								
30	Mon 27-Apr-98	Fri 01-May-98	4		DAYS(B30,C30,C33:C37)								
31				4									
32		Holidays											
33	Bank Holiday	1-May-98											
34	Xmas	25-Dec-98											
35	New Year	1-Jan-97											
36	New Year	1-Jan-98											
37	New Year	1-Jan-99											

	Α	В	С	D	E	F	G	Н	I	J		
1	Northern da	Northern data.										
2	Used by the	Used by the example for the =INDIRECT() function.										
3]	Alan					_					
4			Jan	Feb	Mar	Total						
5		Alan	10	20	30	60						
6		Bob	40	50	60	150						
7		Carol	70	80	90	240						
8		Total	120	150	180	450						
9												

	Α	В	С	D	E	F	G	Н	I	J
1	NO	Г								
2										
3	1		Cells T	To Test	Result	1				
4			10	20	TRUE	=NOT(C4>	>D4)			
5			10	20	TRUE	=NOT(C5=	=D5)			
6			10	20	FALSE	=NOT(C6<	<d6)< td=""><td></td><td></td><td></td></d6)<>			
7			1-Jan-98	1-Feb-98	TRUE	=NOT(C7>	>D7)			
8			Hello	Goodbye	TRUE	=NOT(C8=	=D8)			
9			Hello	Hello	FALSE	=NOT(C9=	=D9)			
10										
11		What Does It Do ?								
12		This function performs a test to see if the test fails. (A type of reverse logic).								
13		If the test fails, the result is TRUE.								
14	_	If the test is met, then the result is FALSE.								
15	-									
16		Syntax								
17			tToPerform)							
18	-	The TestTo	oPerform ca	an be refere	nce to cells	or another	calculation	•		
19	-									
20		Formatting								
21	-	No special	formatting	is needed.						
22	-	-								
23		Example					la a waa a al			
24 25				is used by a s Taken out		rack books	borrowed.			
25										
20				n is entered. s returned is						
27						late whethe	r the hook	Nas returno	d within	
28										
30	the correct time, by adding the Loan value to the Taken date. If the book was not returned on time the result Overdue is shown, otherwise OK is shown.									
31										
32	1	Taken	Loan	Returned	Status	1				
33	1	1-Jan-98	14	5-Jan-98	OK	=IF(NOT()33<=B33+	-C33),"Over	due" "OK")	
34	1 	1-Jan-98	14	15-Jan-98	OK			-C34),"Over	· · · · · · · · · · · · · · · · · · ·	
35	† 	1-Jan-98	14	20-Jan-98				-C35),"Over	· · · · · · · · · · · · · · · · · · ·	

	A B	С	D	E	F	G	Н	
1	NOW							_
2								-
3		The current Date and Time						
4		4/20/2015 9:04	=NOW()					
5		04/20/15 09:04 AM	=NOW()					
6								
7	What Doe							-
8	This function	on shows the current date a	nd time. The re	sult will be	updated ea	ch time the		-
					•			
9	worksheet	is opened and every time a			•			
9 10	worksheet				•			
-	worksheet Syntax				•			_
10	_				•			-
10 11	Syntax				•			•
10 11 12 13	Syntax	is opened and every time a			•			•
10 11 12	Syntax =NOW() Formattin	is opened and every time a	n entry is made	anywhere	on the work	sheet.		-

ODD

	A B	С	D	E	F	G	Н	I				
1	ODD											
2				_								
3		Number	Rounded To Next Odd									
4		2	3	=ODD(C4)								
5		2.4	3	=ODD(C5)								
6		2.9	3	=ODD(C6)								
7		3	3	=ODD(C7)								
8		3.4	5	=ODD(C8)								
9		3.9	5	=ODD(C9)								
10				_								
11	What Does											
12	This function	on rounds a	number up to	o the next hig	hest whole	odd numbe	er.					
13												
14	Syntax											
15	=ODD(Nun	nberToBeR	ounded)									
16												
17	Formatting											
18	No special	formatting	s needed.									

30

AB004

5000

Delta

£5

	A B	С	D	E	F	G	Н	I	J			
1	OR											
2		_				_						
3		Order No.	Cost	Payment Type	Handling Charge							
4	-	AB001	1000	Cash	£-			l="Delta"),5				
5	-	AB002	1000	Visa	£5			5="Delta"),5				
6	-	AB003	2000	Cheque	£-			6="Delta"),5				
7	-	AB004	5000	Delta	£5	=IF(OR(E	7="Visa",E7	'="Delta"),5	0)			
8												
9	What Does				:6	f the sure is the s						
10		This function tests two or more conditions to see if any of them are true. It can be used to test that at least one of a series of numbers meets certain conditions.										
11												
12	Normany tr	ne OR() fund		be used in	conjunction	i with a fund	Such Such a	IS –IF().				
13	Suntax											
14 15	Syntax =OR(Test	$1 \operatorname{Toot}(2)$										
15		there can be	un to 20 n	occiblo toct	c							
17	Note that i	lifere can be	e up to 30 p		5.							
18	Formatting	a										
19		d by itself it v	will show T		<u>SE</u>							
20		i by itself it			<u>.</u> 5L.							
20	Example											
22		ng table sho	ws a list of	f orders take	n hy a com	nany						
23		charge of £					cards					
24		function ha						ne applied				
25						and onlarge		o applica.				
26		Order No.	Cost	Payment Type	Handling Charge							
27	1	AB001	1000	Cash	£-	=IF(OR(E2	27="Visa".E	27="Delta")	,5,0)			
28	1	AB002	1000	Visa	£5	, ,						
29	1	AB003	2000	Cheque	£-	1						

	A	В	С	D	E	F	G	Н	I
1	Orderin	g Stock							
2									
3	This is an e	example of a s	preadsheet	to calculate	e the best t	ime interval	to order s	tock.	
4									
5	Scenario								
6		A garage fits							
7		The manager			0				
8		Each time an	order is ma	de for new	stock, ther	e is a fixed	administra	ative cost.	
9		The exhausts	are kept in	stock until	needed.				
10		Keeping the e	exhausts in s	stock incurs	a cost du	e to capital 1	tied up an	d warehouse	costs.
11		The supplier	of the Exhau	ısts gives a	discount o	on large ord	ers.		
12									
13	Objective								
14	Find the tim	ne interval to c	order stock w	hich will re	sult in the	lowest Adm	in and Wa	arehouse cost	S.
15									

Ordering Stock

	Α	В	С	D	E	F	G	Н						
16	Input Data	-						-						
17			C	cost of a sin	ale Exhau	st system :	£75							
18	Cost	t of keeping E			-	-	12%							
19				antity of Exh			10							
20		Admi	n cost each i	-			£25							
21	Average	e quantity of E					0.5							
22	Average		g Intervals to				2							
22		Ordennų	j intervais to	evaluale. (Lvhiessed	i ili Days).	2							
23		Suppli	ore first Drig	- Brook and		% offered :	200	1%						
			ers first Price											
25		Suppliers	second Price	e Break and	a Discount	% onered :	750	5%						
26														
27	Output													
		Annual Marco The Post												
28	Ordering					Annual	Ware		The Best					
	Interval	Quantity	Order	Order	Orders	Admin	house	Annual	Ordering					
	In Days	Per Order	Value	Discount	Per Year	Cost	Costs	Total	Interval					
29	1	10	£750	£-	365	£9,125	£45	£9,170	-					
30	2	20	£1,500	£-	183	£4,575	£90	£4,665	-					
31	4	40	£3,000	£-	92	£2,300	£180	£2,480	-					
32	6	60	£4,500	£-	61	£1,525	£270	£1,795	-					
33	8	80	£6,000	£-	46	£1,150	£360	£1,510	-					
34	10	100	£7,500	£-	37	£925	£450	£1,375	-					
35	12	120	£9,000	£-	31	£775	£540	£1,315	-					
36	14	140	£10,500	£-	27	£675	£630	£1,305	-					
37	16	160	£12,000	£-	23	£575	£720	£1,295	-					
38	18	180	£13,500	£-	21	£525	£810	£1,335	_					
39	20	200	£15,000	£150	19	£475	£900	£1,225	Best					
40	22	220	£16,500	£165	17	£425	£990	£1,220	-					
40	24	240	£18,000	£180	16	£400	£1,080	£1,200	_					
41	24	240	£19,500	£100	15	£375	£1,170	£1,350	-					
	20	280	£19,500 £21,000	£195 £210	15	£375 £350	£1,260	£1,350 £1,400	-					
43														
44	30	300	£22,500	£225	13	£325	£1,350	£1,450	-					
45	32	320	£24,000	£240	12	£300	£1,440	£1,500	-					
46	34	340	£25,500	£255	11	£275	£1,530	£1,550	-					
47	36	360	£27,000	£270	11	£275	£1,620	£1,625	-					
48	38	380	£28,500	£285		£250	£1,710	£1,675	-					
49	40	400	£30,000	£300	10	£250	£1,800	£1,750	-					
50	42	420	£31,500	£315	9	£225	£1,890	£1,800	-					
51	44	440	£33,000	£330	9	£225	£1,980	£1,875	-					
52	46	460	£34,500	£345	8	£200	£2,070	£1,925	-					
53	48	480	£36,000	£360	8	£200	£2,160	£2,000	-					
54	50	500	£37,500	£375	8	£200	£2,250	£2,075	-					
55	52	520	£39,000	£390	8	£200	£2,340	£2,150	-					
56	54	540	£40,500	£405	7	£175	£2,430	£2,200	-					
57	56	560	£42,000	£420	7	£175	£2,520	£2,275	-					
58	58	580	£43,500	£435	7	£175	£2,610	£2,350	-					
59	60	600	£45,000	£450	7	£175	£2,700	£2,425	-					
60		000	210,000	2-00		2110	22,100	22,720						
61	Things To	Trv												
62		Change the D	Discount 04 to	006 and 0	0/6									
		•												
63		Change the C				por or more	ovnono ^{is} /	0						
64		Change the C						е.						
65	Change the Quantity used per day to a larger or smaller number.													
66														

Ordering Stock

		Ordening Stock											
	A	B C D E F G H I											
67	Explanatio	bn											
68	Column A	Ordering Interval In Days											
69		The first of these cells has the value 1 entered in it.											
70		This is the smallest ordering period, which would require stock to be ordered every day.											
71		The second cell picks the ordering interval from the Input Data table.											
72		The third and subsequent cells add the ordering interval to the previous cell to create											
73		a list of values of the same interval.											
74													
75	Column B	Quantity Per Order											
76		This is the number of Exhausts which will need to be ordered.											
77]												
78		Calculation : OrderingInterval * QuantityUsedPerDay											
79													
80	Column C	Order Value											
81	This is the value of the Order before any discount.												
82													
83		Calculation : QuantityOrdered * CostOfExhaust											
84	_												
85	Column D	Order Discount											
86	-	The discount which can be subtracted from the order value.											
87	-	The discount is only given on orders which are equal to or greater than the											
88	-	Price Break values set by the supplier.											
89	-												
90	-	Calculation : OrderValue * SupplierDiscount											
91	-	The supplier discount is calculated using the $=IF()$ and the $=AND()$ functions.											
92	-												
93	-	If the OrderQuantity is equal to or above the first Price Break, but below											
94	-	the second Price Break, then the first Price Break discount is used.											
95	-	=C29* IF(AND(B29>=\$G\$24,B29<\$G\$25),\$H\$24 ,IF(B29>=\$G\$25,\$H\$25,0))											
96	-	If the Order Order Vite is a much to an above the ended of Drive Devel											
97	-	If the OrderQuantity is equal to or above the second Price Break,											
98	-	the second Price Break discount is used.											
99	-	=C29*IF(AND(B29>=\$G\$24,B29<\$G\$25),\$H\$24, IF(B29>=\$G\$25,\$H\$25 ,0))											
100	-	If the OrderQuentity does not quelify for a discount zero discount is used											
101		If the OrderQuantity does not qualify for a discount, zero discount is used.											
102	-	=C29*IF(AND(B29>=\$G\$24,B29<\$G\$25),\$H\$24,IF(B29>=\$G\$25,\$H\$25, 0))											
103	Column E	Orders Per Year											
-													
105	-	This is how many orders will need to be made based upon the ordering interval.											
106	-	With an interval of 1, there will have to be 365 orders.											
107	-	Calculation : 365/OrderingInterval											
108 109	-	Calculation : 365/OrderingInterval This calculation may give results which are decimal, such as 2.3											
109	-	This decimal will cause problems, due to the fact that the number of											
110	-	orders must always be a whole number.											
111	-	The =CEILING() function has been used to 'round up' any decimals to											
112	-	the next highest whole number.											
113	-	=CEILING(365/A29,1)											
114	-												
112													

Ordering S	tock
------------	------

	[1 1		1									
	A	В	С	D	E	F	G	H					
	Column F	Annual Admir											
117		This is the adm	ninistration	costs involv	/ed in mak	ing the orde	ers.						
118													
119		Calculation : C	rdersPerY	'ear * Admir	nCost								
120]	=	E29*\$G\$2	0									
121													
122	Column G	Annual Wareh	nual Warehouse Costs										
123		This is the cost	s is the cost of keeping the stock in the warehouse.										
124		It is based on t	based on the managers knowledge that on average the stock level is 50% of the										
125		quantity ordere	d.										
126													
127		Calculation : Q	uantityOrd	lered * Aver	ageStockL	_evel) * Exh	austCost '	* Warehousin	gCost				
128		=	(B29*\$G\$2	21)*\$G\$17*	\$G\$18	-			-				
129													
130	Column H	Annual Total											
131]	This is the full	early cost	of ordering	the Exhau	ısts, based	upon how	frequently the	Э				
132]	orders are mad	le.										
133	1	It does not take	e in to acco	ount the actu	ual costs o	f the Exhau	sts, as the	manager onl	у				
134		wants to know	what the lo	owest values	s for the ov	/erheads as	sociated v	with ordering a	and				
135		storing the exh	aust syste	ms.									
136		However, the D	Discount fig	jure is taker	n into acco	unt as this d	can be use	ed to offset so	me				
137		of the overhead	ds.										
138]												
139		Calculation : A	nnualAdm	inCosts + A	nnualWare	ehouseCost	s - OrderE	Discount					
140		=	F29+G29-	D29									
141]												
142	Column I	The Best Orde	Best Ordering Interval										
143		This shows the	s shows the Best ordering interval, giving the lowest annual overheads.										
144]		npares the value in column H against the minimum value for all of column H.										
145		If the two value	s match th	e word Bes	t is shown	, otherwise	a dash is s	shown.					
146		=	IF(H29=M	IN(\$H\$29:\$I	H\$59),"Bes	st","-")							

173FuntionsofExcel.xls at 04/20/2015

PACKERS

	А	В	С	D	E	F	G	Н	I	J
1										
2		Box size	Sample	Packer1	Packer2	Packer3	Packer4			
3		Small		1 10) 10	10	10			
4		Medium		1 20) 20	20	21			
5		Large		1 30) 28	35	30			
6		Small		2 11	9	10	10			
7		Medium		2 21	20	0	20			
8		Large		2 31	28	30	30			
9		Small		3 8	3 10	12	10			
10		Medium		3 22	2 20	20	19			
11		Large		3 32	2 28	30	30			
12										
13		Box size	Sample	Packer1	Packer2	Packer3	Packer4			

	A B	С	D	E	F	G	Н					
1	PERMUT											
2					_							
3		Pool Of Items	Items In A Group	Permutations								
4		4	2	12	=PERMUT							
5		4	3	24	=PERMUT							
6		10	4	5040	=PERMUT							
7		26	6	165,765,600	=PERMUT	(C7,D7)						
8												
9	What Does					and any of it as						
10		on calculates the ma										
11	The internal order is significant, so AB and BA will be considered as two possible permutations. It could be used to calculate the possible number of 4 digit passwords from the digits 0 to 9.											
12		used to calculate th	ie possible number	or 4 uigit passwor	us nom me		1.					
13 14	Suptox											
14	Syntax	(PoolToPickFrom,It	omsInAGroup)									
16		(F00110F10KF10111,11	emsinAGroup)									
17	Formatting	r										
18		formatting is neede	d									
19	No special	ionnating io neede										
20	Example											
21		ng table was used t	o calculate the tota	l number of 8 lette	er passwords	s which can						
22		by using all 26 lette			1							
23		, J	•									
24		Letter In Alphabet	26									
25		Password Size	8									
26		Permutations	62,990,928,000									
27	•											
28												
29		of a two letter pass		e letter A, B, C an	d D, the foll	owing						
30	twelve pern	nutations would be	possible.									
31												
32		ABCD										
33		_										
34		Password 1		Password 7	BA							
35		Password 2		Password 8	CA							
36		Password 3		Password 9	DA							
37		Password 4		Password 10	СВ							
38		Password 5		Password 11	DB							
39		Password 6	CD	Password 12	DC							

	Α	В	C	D	E	F	G	H	I
1	ΡΙ								
2									
3				π					
4				3.14159265358979	=PI()				
5									
6		What Does							
7				to the value of Pi.					
8	-		t to 15 decir	•					
9		It does not	need any ir	nput, it is a self conta	ined function.				
10									
11		Syntax							
12		=PI()							
13	1								
14	-	Formatting							
15		No special	formatting	is needed.					
16									
17		Example							
18	4	To calculat	te the area (of a circle.					
19									
20			Radius	Area					
21			5	78.54	=PI()*(C21^2)				
22			25	1963.50					

POWER

	A B	С	D	E	F	G	Н	I				
1	POWER											
2												
3]	Number	Power	Result								
4												
5		3	4	81	=POWER							
6		5	2	25	=POWER							
7		5	4	625	=POWER	(C7,D7)						
8	_											
9	What Does											
10		This function raises a number to a user specified power.										
11	It is the same as using the $^{\circ}$ operator, such as 3 ⁴ , which result is 81.											
12	Both the Po	Both the POWER() function and the ^ operator are the same as using 3*3*3*3.										
13	_											
14	Syntax											
15	=POWER(I	NumberToE	eRaised,Po	ower)								
16												
17	Formatting											
18	No special	formatting i	s needed.									
19	·											
20	Example											
21	I o calculat	To calculate the area of a circle.										
22												
23		Radius Area										
24	-	5	78.54	=PI()*POWER(C22,2)								
25		25	1963.50									

PRODUCT

	A B	С	D	E	F	G	Н	Ι					
1	PRODUC	Г											
2													
3		Num	bers	Product									
4		2	3	6	=PRODUCT(C4,D4)								
5		5	10	50	=PRODUCT(C5:D5)								
6		3	7	210	=PRODUCT(C6:D6,10)								
7				6300	=PRODUCT(C4:D6)								
8													
9		What Does It Do ?											
10		This function multiples a group of numbers together.											
11	It is the sar	ne as using	2*3*5*10*3	3*7, which r	esults in 6300.								
12	- .												
13	Syntax												
14		I (Number1	.,Number2,I	Number3	through to Number30)								
15	or												
16	=PRODUC	T(RangeOf	Numbers)										
17		or											
18	=PRODUCT(Number1,Range,Number2)												
19													
20	Formatting												
21	No special	formatting	s needed.										

PROPER

	A B	С	D	E	F	G	Н	Ι				
1	PROPER											
2				-								
3		Original Text	Proper									
4		alan jones	Alan Jones	=PROPER	R(C4)							
5		bob smith	Bob Smith	=PROPER	R(C5)							
6		caRol wILLIAMS	Carol Williams	=PROPER	R(C6)							
7		cardiff	Cardiff	=PROPER	R(C7)							
8	ABC123 Abc123 =PROPER(C8)											
9	-			-								
10	What Does											
11	This function	on converts the first le	etter of each wor	d to upperc	ase, and al	l subsequei	nt letters					
12	are convert	ed to lower case.										
13												
14	Syntax											
15	=PROPER	(TextToConvert)										
16												
17	Formatting											
18	No special	formatting is needed										

QUARTILE

	A B	С	D	E	F	G	Н	I	J	K		
1	QUAF	TILE										
2												
3		Values		Quarter No.	Quartile							
4		1		0	1	-	UARTILE(C4					
5		25		1	25	_	UARTILE(C4					
6		50		2	50		UARTILE(C4					
7		75		3	75		UARTILE(C4					
8		100		4	100	=Q	UARTILE(C4	:C8,E8)				
9												
10												
11	_	Values					Quarter No.	Quartile				
12		817	104	640	767		0	104		_E(C12:F16,H12)		
13		748	756	369	703		1	285.75		_E(C12:F16,H13)		
14	_	372	993	294	261		2	489		_E(C12:F16,H14)		
15		487	384	185	491		3	750		_E(C12:F16,H15)		
16		140	607	894	182		4	993	=QUARTII	_E(C12:F16,H16)		
17												
18		t Does It I										
19				a group of va				alues whi	ch are of th	е		
20				2nd, 3rd and 4	•							
21										IIN() function.		
22	The (Quartile of	4 is actu	ually highest v	alue, whic	ch c	an be obtaine	ed using t	he =MAX()	function.		
23												
24	Synt											
25				BeExamined,C		lue))					
26	The QuartileValue can only be 0,1,2,3 or 4.											
27												
28		natting										
29	No s	pecial forn	natting is	needed.								

	Δ	В	С	D	E	F	G	L
1				U		F	G	Н
1	Ųυ	OTIEN						
2			Number	Divisor	Result	I		
4			12	5	2	=QUOTIENT(C4,D4)		
5			20	3	6	=QUOTIENT(C5,D5)		
6			46	15	3	=QUOTIENT(C6,D6)		
7					, , , , , , , , , , , , , , , , , , ,			
8	v	Vhat Does	s It Do ?					
9	T	his functio	on calculates t	he number	of times a r	number can be divided by	another number.	
10	lt	ignores a	ny remainder	, only show	ing the who	le number.		
11	_							
12		Syntax						
13	=	QUOTIEN	NT(NumberTo	BeDivided,	Divisor)			
14	 _	ormatting	~					
15 16		ormatting	g formatting is r	hahaar				
17		io special	iornatury is i					
18	Е	xample						
19			ng example w	as used by	a drinks me	erchant to calculate the n	umber of	
20			could be pa					
21	т	he merch	ant can only s	ell full crate	es.			
22								
23						ple division. This howeve	r shows	
24			decimal fracti	ons which a	are not need	ded.		
25			T 4					
26			Table 1	Dettlee	Dettlee		1	
27			Item	Bottles To Pack	Bottles Per Crate	Crates Needed		
28			Wine	126	12	10.5	=D28/E28	
29			Champagne	200	8	25	020/220	
30			Rum	15	4	3.75		
31	1		Beer	250	20	12.5	1	
32]						•	
33								
34					FIENT() fund	ction to remove the decim	nal fraction to	
35			give the corre	ect result.				
36								
37		I	Table 2	Dettler	Dettler		1	
38			Item	Bottles To Pack	Bottles Per Crate	Crates Needed		
39			Wine	126	12	10	=QUOTIENT(D39,E39)	
40			Champagne	200	8	25		
41			Rum	15	6	2		
42			Beer	250	20	12		

	A B	С	D	E	F	G	Н	
1	RAND							
2								
3		Random great	ter than or e	equal to 0 bi	ut less than	1.		
4]					0.8312997674	=RAND()	
5								
6	_	Random great	ter than or e	equal to 0 bi	ut less than			
7	-					1.0108709522	=RAND()*:	LO
8	-		- 14	0				
9	-	Random betw	een 5 and 1	.0.		0 1720757201		(10 5) (5
10 11	-					8.1730757281	=RAND()^(10-5)+5
12	What Doe	s It Do 2						
13		on creates a ra	ndom numh	per >=0 but	<1			
14	-					tes, or when F9	is pressed.	
15		ge in the second s						
16	Syntax							
17	=RAND()							
18								
19	Formatting							
20	No special	formatting is n	eeded.					
21	-							
22 23	Examples		how how th		function be	as been used to	randomly	
23		information.		e – RAND()		is been used to	ranuonny	
24	3011131011	information.						
26	A list of ca	rds has been e	ntered in co	olumn C. an	d =RAND()	in column D.		
27						a, Sort or the So	rt button	
28		vill be shuffled.			0			
29								
30	The same	technique has	been used t	to generate	a list of six	winning lottery	numbers.	
31	-		-					
32	-	Card	Random		Lottery	Random		
33	-	Clubs 8	0.2292155 0.6629582		29	0.3701884495		
34 35	-	Clubs 6 Diamond 9	0.6629582		34 30	0.5028058984 0.5832495932		
36	-	Spades 13	0.4232703		41	0.5415906459		
37	-	Clubs 9	0.6114033		40	0.2654763055		
38	-	Diamond 7	0.8829351		37	0.474391344		
39	-	Diamond 4	0.5944023		26	0.2890746291		
40		Clubs 10	0.7881779		32	0.9969502124		
41		Spades 3	0.7678113		21	0.8862218312		
42	-	Hearts 6	0.9054852		19	0.4736959161		
43	-	Hearts 4	0.7962524		7	0.1041939994		
44	-	Diamond 8	0.7537747		10	0.1500741867		
45	-	Hearts 11	0.8511833		16	0.6076140222		
46 47	-	Clubs 3 Clubs 13	0.1745152 0.2425439		8 48	0.4062499953 0.6347736125		
47	-	Spades 5	0.2425439		40	0.4122707709		
49	-	Diamond 3	0.0943688		44	0.6501933839		
50	-	Spades 2	0.9967895		4	0.6604168923		
51	1	Diamond 6	0.38347		3	0.5267066238		
52	1	Clubs 5	0.3032969		45	0.7511250526		
53	1	Spades 1	0.7479853		47	0.0884509603		
54]	Clubs 12	0.2730309		49	0.4278329974		
55]	Hearts 10	0.985921		35	0.9484450631		
56		Hearts 13	0.603375		27	0.4596585543		
57	1	Spades 7	0.3126659		1	0.9373537679		
58		Spades 6	0.2761591		13	0.1767746662		

	A	В	С	D	E	F	G	Н	I
59			Diamond 12	0.8650148		31	0.8848762573		
60	1		Hearts 3	0.9870746		5	0.3110829443		
61	1		Hearts 5	0.978668		18	0.0080744335		
62			Hearts 8	0.7768479		39	0.9859633525		
63			Hearts 1	0.3219001		23	0.9456980899		
64			Diamond 13	0.2078835		12	0.3782628835		
65]		Hearts 9	0.4398061		11	0.4887692509		
66]		Clubs 4	0.7451766		20	0.5289476831		
67			Diamond 5	0.864932		33	0.9198535294		
68			Spades 4	0.0512094		42	0.7542455564		
69			Clubs 1	0.6281117		24	0.0033390275		
70			Spades 8	0.4593342		2	0.2089281585		
71			Hearts 7	0.8393873		14	0.7511957688		
72			Diamond 1	0.395923		25	0.8895608587		
73			Clubs 2	0.3648194		9	0.6826240746		
74]		Hearts 2	0.6356397		38	0.8553897683		
75			Diamond 11	0.1496977		15	0.0396350459		
76			Clubs 7	0.2160027		28	0.2902380968		
77			Spades 12	0.8101549		17	0.2616397636		
78			Spades 10	0.3922416		6	0.6744086584		
79			Clubs 11	0.5961337		22	0.7025088677		
80			Diamond 2	0.9045237		46	0.9118331475		
81]		Diamond 10	0.3890311		36	0.3348255507		
82]		Spades 9	0.9796037					
83]			0.2078206					
84			Hearts 12	0.1370164					

	A B	C	D	E	F	G	Н	I				
1	RANDBE	WEEN			1	1		L				
2												
3		Low	High	Random								
4		5	10	6	=RANDBE	TWEEN(C4	4,D4)					
5	_	1	49	10	=RANDBE	TWEEN(C	5,D5)					
6	_											
7	What Does											
8				whole number b								
9 10	I ne randor	n number w	ill change e	each time the sp	readsneet I	s recalculat	ea or F9 is pr	essea.				
10	Syntax											
12		IBETWEEN	(LowLimit F	Hight imit)								
13			(,									
14	Formatting	g										
15	No special	formatting i	s needed.									
16]											
17	Example											
18		•		e =RANDBETW	EEN() has l	been used t	o generate six	<				
19		o use for the					41	- I				
20 21				eck to ensure a	i numbers a	are unique,	the same nun	nber				
21		enerated twi	ce or more									
				The Winning								
23		Lottery N	lumbers	Ticket!								
24	-	1	49	37	=RANDBE	TWEEN(\$0	C\$24,\$D\$24)	Number 1				
25	- 			28	=RANDBE	TWEEN(\$0	C\$24,\$D\$24)	Number 2				
26		Press fun		24			C\$24,\$D\$24)	Number 3				
27		F9 to rec	alculate.	30			C\$24,\$D\$24)	Number 4				
28	-			28			C\$24,\$D\$24)	Number 5				
29	-			22			C\$24,\$D\$24)	Number 6				
30	{			19	=RANDBE	IVEEN(\$0	C\$24,\$D\$24)	Bonus ball				
31 32	-											
32												
34	{=IF(SUM	(1/COUNTI		E24:E30))<>7,"I		I Spin again'	."All OK")}					
35				rmine whether a								
36				an array using C								

		0		-	_	0		· · · · · · · · · · · · · · · · · · ·					
		С	D	E	F	G	H	<u> </u>					
	RANK												
2				1									
3		Values	Ranking Position High to Low										
4		Values		=RANK(C									
5		4	5	=RANK(C	· · · · · · · · · · · · · · · · · · ·								
6		25	1	=RANK(C									
7		8	3	=RANK(C									
8		16	2	=RANK(C									
9													
10			Ranking Position	1									
		Values	Low to High		11 011 015								
11		7	2		11,C11:C15	· · · ·							
12 13		4 25	<u>1</u> 5		12,C11:C15 13,C11:C15								
13		8	3		14,C11:C15								
14		16	4		14,C11.C13 15,C11:C15								
16													
			Ranking Position	1									
17		Values	High to Low										
18		10	5		18,C18:C22								
19		30	2		19,C18:C22	·							
20		20	4		20,C18:C22								
21		30	2 1		21,C18:C22	·							
22 23													
23													
25													
26			be to rank the time										
27			ne on an ascendin					sis.					
28			alues in the list, the										
29			quentially, but wou										
30			20 and 10 were ra	nked, 30 is	ranked as 1	., both 20's	are ranked	as 2, and					
31	the 10 wou	ld be ranke	d as 4.										
32		Donk	1										
33 34	Value 30	Rank 1	=RANK(B34,B34:	D07)									
35	20	2	=RANK(B35,B34:										
36	20	2	=RANK(B36,B34:										
37	10	4	=RANK(B37,B34:										
38				,									
39	Syntax												
40			nk,ListOfNumbers,	RankOrder)									
41			e 0 zero or 1.										
42	Using 0 wil	I rank large	r numbers at the to	op. (This is o	optional, lea	ving it out	has the sam	ne effect).					
43	Using 1 will rank small numbers at the top.												
44	Eormatting												
45	Formatting No special		is noodod										
46	ino special	omating											
47	Example												
49		ng table wa	s used to record th	e times for	athletes cor	npeting in a	a race.						
50			was then used to f					ing times.					
51]			-		-							
52	Athlete	Time	Race Position										
53	John	1:30	4		53,C53:C58								
54	Alan	1:45	6	=RANK(C	54,C53:C58	,1)							

Excel Function Dictionary © PCTC 1998

	A	В	С	D	E	F	G	Н	I	
55		David	1:02	1	=RANK(C55,C53:C58,1)					
56		Brian	1:36	5	=RANK(CS	56,C53:C58	,1)			
57		Sue	1:27	3	=RANK(C	57,C53:C58	l,1)			
58		Alex	1:03	2	=RANK(CS	58,C53:C58	,1)			

	A B	С	D	E	F	G	Н	I
1	REPLA	CE						
2							_	
3			Start	Characters	New	Modified		
5		Original Text	Position	To Replace	Character			
4		ABCDEFGH	2	1	X	AxCDEFGH		E(C4,D4,E4,F4)
5		ABCDEFGH	2	5	X	AxGH		E(C5,D5,E5,F5)
6		ABCDEFGH	2	1	hello	AhelloCDEFGH		E(C6,D6,E6,F6)
7		ABCDEFGH	2	5	hello	AhelloGH	=REPLAC	E(C7,D7,E7,F7)
8								
9		oes It Do ?						
10	1	ction replaces a	•					
11				•		how many chara	acters to	
12	remove	and what the n	ew replac	ement text s	hould be.			
13								
14	Syntax							
15	=REPLA	ACE(OriginalTe	xt,StartPc	sition,Numb	erOfCharac	ctersToReplace,N	lewText)	
16								
17	Format							
18	No spec	cial formatting is	s needed.					

REPT

	A B	С	D	E	F	G	Н	I
1	REPT							
2								
3		Text To	Number Of	Repeated				
4		Repeat A	Repeats	Text AAA	=REPT(C4	(4 م		
4 5		AB	3	ABABAB	=REPT(C			
6		-	10		=REPT(C			
7			10		=REPT(C	· · · · · · · · · · · · · · · · · · ·		
8					-			
9	What Does				hav of times			
10 11				kt a specified nun repeated and hov			i+	
12	r ou neeu t	o specily ii		epealed and nov	v many ume	is to repeat	п.	
13	Syntax							
14	=REPT(Te		t,Repetitions					
15	The maxim	num numbe	er of repetition	ns is 200.				
16								
17 18	Formatting No special		is needed					
10	No special	lonnatting	is needed.					
20	Example 1	L						
21	The followi	ng table wa		splay a simple his				
22				ue of Sales, but t		ed by 100 to	scale down	n the
23	number of	repetitions	to below the	maximum of 200				
24 25		Month	Sales					
25		Jan	£1,000					
27		Feb	£5,000					
28		Mar	£3,000					
29		Apr	£2,000					
30				=REPT(" ",D29/	100)			
31 32	Example 2	,						
33			has been us	ed to make a dig	ital displav	for the curre	ent time.	
34				/INUTE() and =S				unction
35	with the =N	IOW() as tl	ne basis for tl	he number of rep				
36	To update	the clock p	ress the func	tion key F9.				
37		Cleate	l					
38 39		Clock Hour	09					
40		Minute						
41			05					
42								
43				IOUR(NOW()))&"				
44								
45			=REP1(" ",S	SECOND(NOW()))&" "&IEXI	(SECOND(<u>INOVV()),"0(</u>)

RIGHT

	A B	С	D	E	F	G	Н	I
1	RIGHT	1						
2								
			Number Of		1			
3		Original	Characters	Right				
	-	Text	Required	String				
4	-	Alan Jones	1	S	=RIGHT(C	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
5	-	Alan Jones	2 3	es	=RIGHT(C			
6	-	Alan Jones Cardiff	<u> </u>	nes ardiff	=RIGHT(C =RIGHT(C			
8	-	ABC123	4	C123	=RIGHT(C	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
9		ADC123	4	0125		0,00)		
10	What Does	s It Do ?						
11			ecified number of	characters	from the ric	ht hand sic	le of a	
12	piece of tex					,		
13								
14	Syntax							
15	=RIGHT(O	riginalText,Numb	perOfCharacters	Required)				
16								
17	Formatting		!!					
18	No special	formatting is nee	eded.					
19 20	Example							
21		ng table was use	ed to extract the s	second nam	e of a perso	on from the	ir full name.	
22		•	es the position of		•			
23		•	ame is calculated	•				
24		length of the full		-	~ '			
25	The =RIGH	IT() function can	then extract the	second nan	ne.			
26]							
27		Full Name	Second Name					
28		Alan Jones	Jones		28,LEN(C2			
29		Bob Smith	Smith		29,LEN(C2			
30		Carol Williams	Williams	=RIGHT(C	30,LEN(C3	0)-FIND(" ",	,C30))	

	A B	С	D	E	F	G	Н	I
1	ROMAN							
2								
3		Number	Roman	1				
4		1	I	=ROMAN(C4)			
5		2	II	=ROMAN(C5)			
6		3	III	=ROMAN(C6)			
7		5	V	=ROMAN(
8		10	Х	=ROMAN(
9		1998	MCMXCVIII	=ROMAN(
10		1998	MCMXCVIII	=ROMAN(C10,0)			
11		1998	MLMVLIII	=ROMAN(
12		1998	MXMVIII	=ROMAN(
13		1998	MVMIII	=ROMAN(
14		1998	MVMIII	=ROMAN(
15		1998	MLMVLIII		C15,TRUE			
16		1998	MCMXCVIII	=ROMAN(C16,FALSE	Ξ)		
17	_							
18	What Does						-	
19	This function	on produces	a number show	wn as Roma	an numerals	s in various	formats.	
20								
21	Syntax							
22			ber,RomanNun					
23			rmat can be an					
24			ed if no format	is specified.				
25 26	1 is more C	concise.	0					
		iore Concisi						
27	1		e Sull.					
28 29	4 is Simplif TRUE is C							
30 31	FALSE is S	mpillieu						
32	Formatting	Y						
32		i formatting is	s needed					
<u> </u>	ino special	ionnauny i	S NEEUCU.					
35	Note							
36	I horo ie no	tunction to	do the opposite	a calculation	of Doman	to normal		

	A B	С	D	E	F	G	Н	I
1	ROUND							
2					_			
3			Places To	Rounded				
		Number	Round	Number				
4		1.47589	0	1	=ROUND(C4,D4)		
5		1.47589	1	1.5				
6		1.47589			=ROUND(
7		13643.47589	-1	13640	=ROUND(C7,D7)		
8		13643.47589			=ROUND(
9		13643.47589	-3	14000	=ROUND(C9,D9)		
10								
11	What Does							
12	This function	on rounds a numbe	er to a speci	fied amoun	t od decima	al places.		
13	If 0 is used	the number is rour	nded to the	nearest wh	ole number			
14	If a negativ	e amount of round	ing is used	the figures	to the left o	f the decim	al point are	rounded.
15								
16	Syntax							
17	=ROUND(I	NumberToRound,D	ecimalPlac	esToUse)				
18								
19	Formatting							
20	No special	formatting is need	ed.					

	A B	С	D	E	F	G	Н	I	J
1	ROUNDD	OWN							
2					-				
3			Places To						
Ľ.		Number	Round	Down					
4		1.47589		1		OWN(C4,[
5		1.47589	1		=ROUNDE	· · · · · · · · · · · · · · · · · · ·			
6		1.47589	2		=ROUNDE	· · · · · · · · · · · · · · · · · · ·			
7		13643.476	-1		=ROUNDE	· · · · · · · · · · · · · · · · · · ·			
8		13643.476	-2		=ROUNDE	· · · · · · · · · · · · · · · · · · ·			
9		13643.476	-3	13000	=ROUNDE	OWN(C9,I	D9)		
10	_								
11	What Does								
12		on rounds a		•			•		
13		the numbe					•••		
14	If a negativ	re amount o	f rounding i	s used the	figures to th	e left of the	decimal po	pint are rou	nded.
15									
16	Syntax								
17	=ROUNDD	OWN(Num	berToRoun	d,DecimalP	lacesToUse	e)			
18									
19	Formatting								
20	No special	formatting i	s needed.						

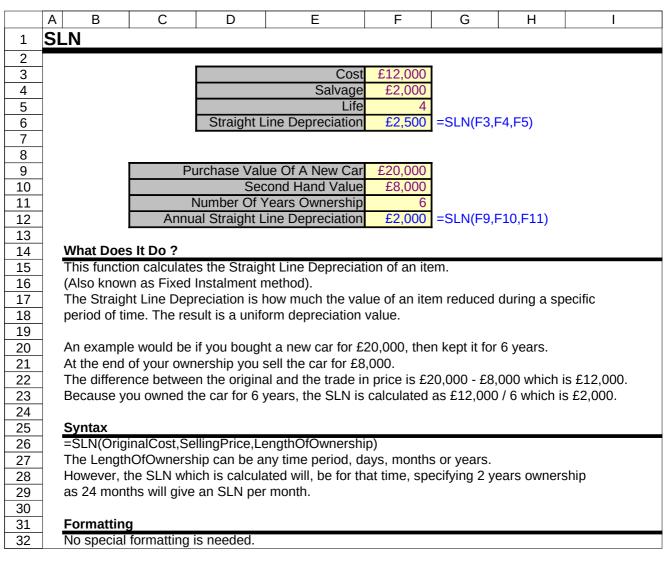
	A B	С	D	E	F	G	Н	I	J
1	ROUNDU	Р							
2					-				
3		Niumala au	Places To	Rounded					
		Number	Round	Up					
4		1.47589	0	2	=ROUNDL				
5		1.47589	1		=ROUNDL				
6		1.47589	2		=ROUNDU				
7		13643.476	-1		=ROUNDU				
8		13643.476	-2	13700	=ROUNDL	JP(C8,D8)			
9		13643.476	-3	14000	=ROUNDL	JP(C9,D9)			
10					-				
11	What Does	s It Do ?							
12	This function	on rounds a	number up	to a specif	ied amount	of decimal	places.		
13	If 0 is used	the numbe	r is rounded	l up to the r	nearest who	le number.			
14	If a negativ	e amount o	f rounding i	s used the	figures to th	e left of the	decimal po	pint are roui	nded.
15	_		_				-		
16	Syntax								
17	=ROUNDU	PNumberT	oRound,De	cimalPlace	sToUse)				
18									
19	Formatting	g							
20	No special	formatting i	s needed.						

	A B	С	D	E	F	G	Н
1	SECOND						
2							
3		Number	Second				
4		20/Apr/15 09:04:06	6	=SECOND(C4)			
5		12:00:00 PM	0	=SECOND(C5)			
6		0.50	0	=SECOND(C6)			
7		0.51	24	=SECOND(C7)			
8	_	1.51	24	=SECOND(C8)			
9							
10	What Does						
11		on will show the second					
12	Only the fra	action part of the numb	er is used a	is it is this which rela	tes to time o	of day.	
13	Currtovi						
14	Syntax						
15	=SECOND	(reamun)					
16 17	Formatting	~					
18		y will be shown as a norn	nal numbor	botwoon 0 and 50			
10	The result	will be shown as a non	nai number	between 0 and 59.			
20	Example						
20		ng table was used by a	telenhone	compnay to calculate	the cost of	a call	
22		one company only deal				a can.	
23		ds in a call are rounded				ill is calcula	ted
24		on of the call is entered					loui
25		JTES() function calcula		I number of minutes.			
26		OND() function calculat					
27		ING() function rounds t			uliple of 5.		
28		of the call is then calcula			•		
29	1						
30	1			Cost Per Second :	£0.01		
31]					1	
32]			led Duration			
33		Duration	Minutes	Seconds	Cost		
34		0:01:08	1	10	£0.70		
35		0:02:03	2	5	£1.25		
36		0:01:47	1	50	£1.10		
37			=CI	EILING(SECOND(C3	6),5)		
31			-01		0,0)		

SIGN

	A B	С	D	E	F	G	Н	I	J
1	SIGN								
2				_					
3		Value	Positive or Negative						
4		10	1	=SIGN(C4					
5		20	1	=SIGN(C5					
6		0	0	=SIGN(C6					
7		-10	-1	=SIGN(C7					
8		-20	-1	=SIGN(C8	s)				
9									
10	What Does								
11			alue to deterr		er it is positi	ive or nega	tive.		
12		•	the result is 1						
13	If the value	is negative	the result is	-1.					
14	If the value	is zero 0 th	ne result is 0.						
15									
16	Syntax								
17	=SIGN(Cel	IToTest)							
18	The CellTo	Test can be	e a cell or a c	alculation.					
19									
20	Formatting	9							
21	No special	formatting i	s needed.						

SLN



SMALL

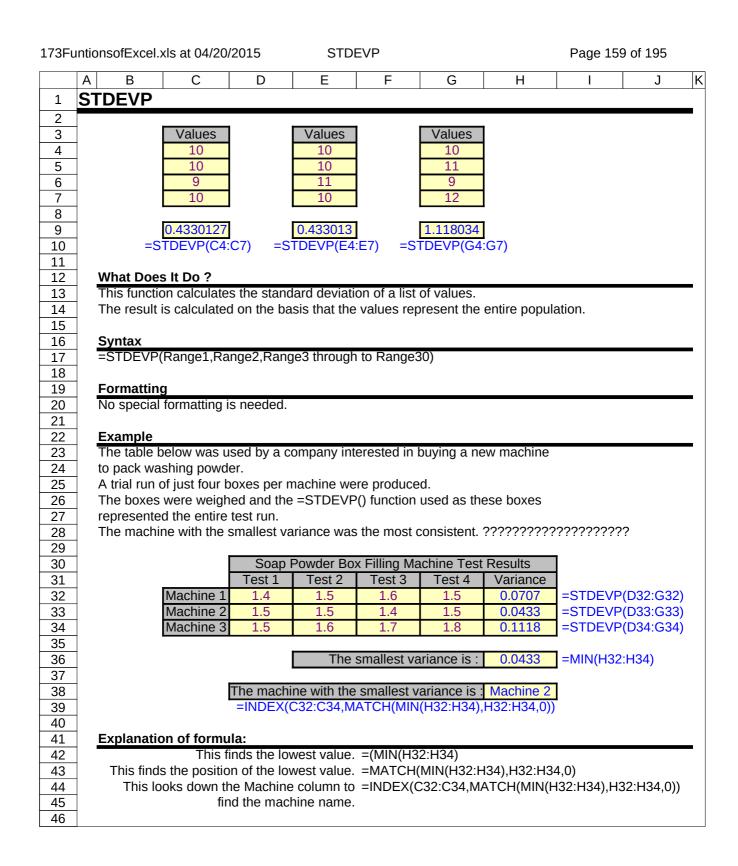
	A B	С	D	F	F	G	Н		J
	SMALL				!			<u> </u>	5
2									I
3		Values	1 1	Lowest Value	e 100	=SMALL($(4 \cdot C8 \ 1)$		
4		120	1 H	2nd Lowest Value		=SMALL(
5		800	1 H	3rd Lowest Value		=SMALL(
6		100	1 1	4th Lowest Value		=SMALL(
7		120	1 1	5th Lowest Value		=SMALL(
8		250	1 5						
9									
10	What Does								
11		on examine	es a list of val	ues and picks the	value at a u	ser specified	d position		
12	in the list.								
13	0								
14	Syntax	int Of Lunch			· · · · · · · · · · · · · · · · · · ·				
15	=SMALL(L	IStOTINUMD	ersioExamin	e,PositionToPickF	rom)				
16 17	Formatting	a							
18	No special								
									•
		ionnatuny	is needed.						
19	•	Ionnauing	is needed.						
19 20	Example			Iculate the bottom	3 sales fiqu	res betweer	n Jan, Feb a	and Mar.	
19 20 21	Example			Iculate the bottom	3 sales figu	res betweer	n Jan, Feb a	and Mar.	
19 20 21 22	Example			lculate the bottom Feb	3 sales figu Mar	res betweer	n Jan, Feb a	and Mar.	
19 20 21 22 23 24	Example	ng table wa	as used to ca Jan £5,000	Feb £6,000	Mar £4,500	res betweer	ı Jan, Feb a	and Mar.	
19 20 21 22 23 24 25	Example	ng table wa Sales North South	as used to ca Jan £5,000 £5,800	Feb £6,000 £7,000	Mar £4,500 £3,000	res betweer	n Jan, Feb a	and Mar.	
19 20 21 22 23 24 25 26	Example	ng table wa Sales North South East	as used to ca Jan £5,000 £5,800 £3,500	Feb £6,000 £7,000 £2,000	Mar £4,500 £3,000 £10,000	res betweer	ı Jan, Feb a	and Mar.	
19 20 21 22 23 24 25 26 27	Example	ng table wa Sales North South	as used to ca Jan £5,000 £5,800	Feb £6,000 £7,000	Mar £4,500 £3,000	res betweer	ı Jan, Feb a	and Mar.	
19 20 21 22 23 24 25 26 27 28	Example	ng table wa Sales North South East West	as used to ca Jan £5,000 £5,800 £3,500 £12,000	Feb £6,000 £7,000 £2,000 £4,000	Mar £4,500 £3,000 £10,000 £6,000		n Jan, Feb a	and Mar.	
19 20 21 22 23 24 25 26 27 28 29	Example	ng table wa Sales North South East West	as used to ca Jan £5,000 £3,500 £12,000 Swest Value	Feb £6,000 £7,000 £2,000 £4,000 £2,000	Mar £4,500 £3,000 £10,000 £6,000 =SMALL(D24:F27,1)	ı Jan, Feb i	and Mar.	
19 20 21 22 23 24 25 26 27 28 29 30	Example	ng table wa Sales North South East West	as used to ca Jan £5,000 £5,800 £3,500 £12,000 owest Value owest Value	Feb £6,000 £7,000 £2,000 £4,000 £2,000 £3,000	Mar £4,500 £3,000 £10,000 £6,000 =SMALL(=SMALL(D24:F27,1) D24:F27,2)	n Jan, Feb a	and Mar.	
19 20 21 22 23 24 25 26 27 28 29 30 31	Example	ng table wa Sales North South East West	as used to ca Jan £5,000 £3,500 £12,000 Swest Value	Feb £6,000 £7,000 £2,000 £4,000 £2,000	Mar £4,500 £3,000 £10,000 £6,000 =SMALL(=SMALL(D24:F27,1)	ı Jan, Feb a	and Mar.	
19 20 21 22 23 24 25 26 27 28 29 30 31 32	Example The followi	ng table wa Sales North South East West	as used to ca Jan £5,000 £5,800 £3,500 £12,000 owest Value owest Value	Feb £6,000 £7,000 £2,000 £4,000 £2,000 £3,000	Mar £4,500 £3,000 £10,000 £6,000 =SMALL(=SMALL(D24:F27,1) D24:F27,2)	ı Jan, Feb a	and Mar.	•
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33	Example The followi	ng table wa Sales North South East West 2nd Lo 3rd Lo	as used to ca Jan £5,000 £5,800 £3,500 £12,000 west Value owest Value owest Value	Feb £6,000 £7,000 £2,000 £4,000 £2,000 £3,000 £3,500	Mar £4,500 £3,000 £10,000 £6,000 =SMALL(=SMALL(D24:F27,1) D24:F27,2) D24:F27,3)	ı Jan, Feb a	and Mar.	
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34	Example The followi	ng table wa Sales North South East West 2nd Lo 3rd Lo	as used to ca Jan £5,000 £5,800 £3,500 £12,000 west Value owest Value owest Value	Feb £6,000 £7,000 £2,000 £4,000 £2,000 £3,000	Mar £4,500 £3,000 £10,000 £6,000 =SMALL(=SMALL(D24:F27,1) D24:F27,2) D24:F27,3)	ı Jan, Feb a	and Mar.	
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	Example The followi	ng table wa Sales North South East West 2nd Lo 3rd Lo	as used to ca Jan £5,000 £5,800 £3,500 £12,000 west Value owest Value owest Value	Feb £6,000 £7,000 £2,000 £4,000 £2,000 £3,000 £3,500	Mar £4,500 £3,000 £10,000 £6,000 =SMALL(=SMALL(D24:F27,1) D24:F27,2) D24:F27,3)	ı Jan, Feb a	and Mar.	
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36	Example The followi	ng table wa Sales North South East West 2nd Lo 3rd Lo	as used to ca Jan £5,000 £5,800 £3,500 £12,000 0west Value owest Value owest Value owest Value	Feb £6,000 £7,000 £2,000 £4,000 £2,000 £3,000 £3,500 d Lowest values w	Mar £4,500 £3,000 £10,000 £6,000 =SMALL(=SMALL(=SMALL(ould have b	D24:F27,1) D24:F27,2) D24:F27,3)	n Jan, Feb a	and Mar.	
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	Example The followi	ng table wa Sales North South East West 2nd Lo 3rd Lo	as used to ca Jan £5,000 £5,800 £3,500 £12,000 west Value owest Value owest Value	Feb £6,000 £7,000 £2,000 £4,000 £2,000 £3,000 £3,500	Mar £4,500 £3,000 £10,000 £6,000 =SMALL(=SMALL(D24:F27,1) D24:F27,2) D24:F27,3) Deen to use	1 Jan, Feb a	and Mar.	

SOUTH

	A	В	С	D	E	F	G	Н	I	J			
1	Southern data.												
2	Used by the example for the =INDIRECT() function.												
3]												
4			Jan	Feb	Mar	Total							
5		Alan	100	200	300	600							
6		Bob	400	500	600	1500							
7		Carol	700	800	900	2400							
8		Total	1200	1500	1800	4500							

STDEV

	A B C D E F G H I J H
1	STDEV
2	
3	Values Values
4	10 10 10
5	10 10 11
6	9 11 9
7	10 10 12
8	
9 10	0.5 0.5 1.2909944 =STDEV(C4:C7) =STDEV(E4:E7) =STDEV(G4:G7)
10	-310ev(04.07) $-310ev(e4.e7)$ $-310ev(04.07)$
12	What Does It Do ?
3	This function calculates the sample population standard deviation of a list of values.
L4	A sample population is used when the list of values represents a sample of a population.
.5	
L6	Syntax
L7	=STDEV(Range1,Range2,Range3 through to Range30)
8	Formatting
19 20	Formatting No special formatting is needed.
20 21	No special formatting is needed.
22	Example
23	The table below was used by a company interested in buying a new machine
24	to pack washing powder.
25	Three machines were short listed and allow to run for a day.
26	At the end of the day four boxes of soap powder were picked at random from the production
27	of each machine.
28	The boxes were weighed and the =STDEV() function used as these boxes only represented
29	a sample of the complete days production.
30	The machine with the smallest deviation was the most consistent.
31 32	Soap Powder Box Filling Machine Test Results
33	Test 1 Test 2 Test 3 Test 4 Variance
34	Machine 1 1.4 1.5 1.6 1.5 0.0816 =STDEV(D34:G34)
35	Machine 2 1.5 1.5 1.4 1.5 0.0500 =STDEV(D35:G35)
36	Machine 3 1.5 1.6 1.7 1.8 0.1291 =STDEV(D36:G36)
37	
38	The smallest deviation is : 0.0500 =MIN(H34:H36)
39	
10	The machine with the smallest deviation is : Machine 2
	=INDEX(C34:C36,MATCH(MIN(H34:H36),H34:H36,0))
11	
1 2	Explanation of formula:
11 12 13	Explanation of formula:
1 2 3 4	This finds the lowest value. =MIN(H34:H36)
40 41 42 43 44 45 46	



SUBSTITUTE

	A B	С	D	E	F G H
1	SUBSTITUTE				
2					
3		Old Text	New Text		
3	Original Text	To Remove	To Insert	Updated Text	
4	ABCDEF	CD	hello	ABhelloEF	=SUBSTITUTE(B4,C4,D4)
5	ABCDABCD	CD	hello	ABhelloABhello	=SUBSTITUTE(B5,C5,D5)
6	Northern Region		Area	Northern Area	=SUBSTITUTE(B6,C6,D6)
7	Sand and Cemer	nt and	&	S& & Cement	=SUBSTITUTE(B7,C7,D7)
8	_		NI STATE		
9	Original Taxt	Old Text To Remove	New Text To Insert		Lindated Text
10	Original Text ABCABCABC	ABC	hello	Be Replaced	Updated Text ABCABChello
10 11	Sand and Cemer		&	2	Sand & Cement
12	Sand and Center		<u>a</u>	2	=SUBSTITUTE(B10,C10,D10,E10)
13	_				=SUBSTITUTE(B11,C11,D11,E11)
14	_				-3688111012(811,011,811,211)
15	What Does It Do	?			
16			d piece of te	ext with a different	piece of text.
17				ext, or a specific ir	
18	The function is ca			•	
19					
20	Syntax				
21				e,TextToInsert,Inst	
22	The InstanceToU	se is optional, i	f it is omitte	d all instances wil	l be substituted.
23					
24					
25	No special format	ting is needed.			
26					
27	Note				
28					ise other text functions
29 30	Such as =UPPER	(), =LOWER()	JI =PROPE	R() to ensure that	the substitution will take place.
30	 Table 1 shows ho	w differing text	casos altor	the result of the s	substitution
32		w unlering text	cases aller	the result of the s	
33	Table 1				
34		Old Text	New Text		l
	Original Text	Old Text To Remove	New Text To Insert		
35	Original Text Northern Region	To Remove	New Text To Insert Area	Updated Text	
35 36	Original Text Northern Region Northern region	To Remove Region	To Insert Area	Updated Text Northern Area	
	Northern Region	To RemoveRegionRegion	To Insert	Updated Text	
36	Northern Region Northern region Northern Region	To RemoveRegionRegionregion	To Insert Area Area	Updated Text Northern Area Northern region	
36 37	Northern Region Northern region Northern Region	To Remove Region Region region Region Region	To Insert Area Area Area	Updated Text Northern Area Northern region Northern Region Northern Region	
36 37 38	Northern Region Northern region Northern Region Northern Region	To RemoveRegionRegionregionRegionRegion	To Insert Area Area Area area	Updated Text Northern Area Northern region Northern Region Northern area	339,C39,D39)
36 37 38 39	Northern Region Northern region Northern Region Northern Region Northern Region	To RemoveRegionRegionregionRegionRegionRegionRegion	To Insert Area Area Area area area	Updated Text Northern Area Northern region Northern Region Northern Region =SUBSTITUTE(E	
36 37 38 39 40	Northern Region Northern region Northern Region Northern Region Northern Region	To RemoveRegionRegionregionRegionRegionRegionRegion	To Insert Area Area Area area area	Updated Text Northern Area Northern region Northern Region Northern Region =SUBSTITUTE(E	339,C39,D39) o take account of the mixed cases.
36 37 38 39 40 41 42 43	Northern Region Northern region Northern Region Northern Region Northern Region Table 2 shows ho	To RemoveRegionRegionregionRegionRegionRegionRegion	To Insert Area Area Area area area	Updated Text Northern Area Northern region Northern Region Northern Region =SUBSTITUTE(E	
36 37 38 39 40 41 42	Northern Region Northern region Northern Region Northern Region Northern Region	To Remove Region Region Region Region Region Region w the =PROPE	To Insert Area Area area area R() function	Updated Text Northern Area Northern Region Northern area Northern Region =SUBSTITUTE(E	
36 37 38 39 40 41 42 43 44	Northern Region Northern region Northern Region Northern Region Northern Region Table 2 shows ho Table 2	To Remove Region Old Text	To Insert Area Area area area R() function	Updated Text Northern Area Northern region Northern Region Northern Region =SUBSTITUTE(E n has been used to	
36 37 38 39 40 41 42 43 44 45	Northern Region Northern region Northern Region Northern Region Northern Region Table 2 shows ho Table 2 Original Text	To Remove Region Region Region Region Region Region w the =PROPE Old Text To Remove	To Insert Area Area area area ER() function New Text To Insert	Updated Text Northern Area Northern region Northern Region SUBSTITUTE(E n has been used to Updated Text	
36 37 38 39 40 41 42 43 44 45 46	Northern Region Northern region Northern Region Northern Region Northern Region Table 2 shows ho Table 2 Original Text Northern Region	To Remove Region Region Region Region Region Region wthe =PROPE Old Text To Remove Region	To Insert Area Area area area R() function New Text To Insert Area	Updated Text Northern Area Northern Region Northern Region SUBSTITUTE(E n has been used to Updated Text Northern Area	
36 37 38 39 40 41 42 43 44 45 46 47	Northern Region Northern region Northern Region Northern Region Northern Region Table 2 shows ho Table 2 Original Text Northern Region Northern Region	To Remove Region Region Region Region Region Region Region Region Region Old Text To Remove Region Region	To Insert Area Area area area area R() function New Text To Insert Area Area	Updated Text Northern Area Northern Region Northern Region SUBSTITUTE(E n has been used to Updated Text Northern Area Northern Area	
36 37 38 39 40 41 42 43 44 45 46 47 48	Northern Region Northern region Northern Region Northern Region Northern Region Table 2 shows ho Table 2 Original Text Northern Region Northern Region Northern Region	To Remove Region Region Region Region Region Region Region Region Old Text To Remove Region Region Region	To Insert Area Area area area area area area Area Area Area	Updated Text Northern Area Northern Region Northern Region Northern Region =SUBSTITUTE(E n has been used to Updated Text Northern Area Northern Area	
36 37 38 39 40 41 42 43 44 45 45 46 47 48 49	Northern Region Northern region Northern Region Northern Region Northern Region Table 2 shows ho Table 2 Original Text Northern Region Northern Region	To Remove Region Region Region Region Region Region Region Region Old Text To Remove Region Region Region Region Region Region Region Region Region Region	To Insert Area Area area area area Area Area Area	Updated Text Northern Area Northern Region Northern Region Northern Region =SUBSTITUTE(E n has been used to Updated Text Northern Area Northern Area Northern Area Northern Area	
36 37 38 39 40 41 42 43 44 45 46 45 46 47 48 49 50	Northern Region Northern region Northern Region Northern Region Northern Region Table 2 shows ho Table 2 Original Text Northern Region Northern Region Northern Region	To Remove Region Region Region Region Region Region Region Region Old Text To Remove Region Region Region Region Region Region Region Region Region Region	To Insert Area Area area area area Area Area Area	Updated Text Northern Area Northern Region Northern Region Northern Region =SUBSTITUTE(E n has been used to Updated Text Northern Area Northern Area Northern Area Northern Area	o take account of the mixed cases.
36 37 38 39 40 41 42 43 44 45 45 46 47 48 49	Northern Region Northern region Northern Region Northern Region Northern Region Table 2 shows ho Table 2 Original Text Northern Region Northern Region	To Remove Region Region Region Region Region Region Region Region Old Text To Remove Region Region Region Region Region Region Region Region Region Region	To Insert Area Area area area area Area Area Area	Updated Text Northern Area Northern Region Northern Region Northern Region =SUBSTITUTE(E n has been used to Updated Text Northern Area Northern Area Northern Area Northern Area	

173FuntionsofExcel.xls at 04/20/2015

SUBTOTAL

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	Α	В	С	D	Е	F	G	Н	Ι	J	Κ	L	М	Ν	0	Ρ	Q	R	S	Т
1	SU	BTOTA	L																	
2]																			
3		Name	Jan	Feb	Mar	Qtr1	Apr	May	Jun	Qtr2	Jul	Aug	Sep	Qtr3	Oct	Nov	Dec	Qtr4	Total	
4		Alan	10	10	10	30	20	20	20	60	30	30	30	90	40	40	40	120	300	
5		Bob	10	10	10	30	20	20	20	60	30	30	30	90	40	40	40	120	300	
6		Carol	10	10	10	30	20	20	20	60	30	30	30	90	40	40	40	120	300	

SUBTOTAL2

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	А	В	С	D	Е	F	G	Н	Ι	J	К	L	М	Ν	0	Р	Q
1	SUE	зто	TAL Shee	t 2													
2	_																
3	lte	m	Area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
4	Wo	ood	East	10	10	10	20	20	20	30	30	30	40	40	40	300	
5	Gla	ass	East	10	10	10	20	20	20	30	30	30	40	40	40	300	
6	Bri	ick	East	10	10	10	20	20	20	30	30	30	40	40	40	300	
7			East Total	30	30	30	60	60	60	90	90	90	120	120	120	900	
8																	
0	Wo	ood	North	10	10	10	20	20	20	30	30	30	40	40	40	300	
9	Gla	ass	North	10	10	10	20	20	20	30	30	30	40	40	40	300	
10	Bri	ick	North	10	10	10	20	20	20	30	30	30	40	40	40	300	
11			North Total	30	30	30	60	60	60	90	90	90	120	120	120	900	
12																	
12	Wo	ood	South	10	10	10	20	20	20	30	30	30	40	40	40	300	
13	Gla	ass	South	10	10	10	20	20	20	30	30	30	40	40	40	300	
14	Bri	ick	South	10	10	10	20	20	20	30	30	30	40	40	40	300	
15			South Total	30	30	30	60	60	60	90	90	90	120	120	120	900	
16																	
10			West	10	10	10	20	20	20	30	30	30	40	40	40	300	
17	Gla	ass	West	10	10	10	20	20	20	30	30	30	40	40	40	300	
18	Bri	ick	West	10	10	10	20	20	20	30	30	30	40	40	40	300	
19			West Total	30	30	30	60	60	60	90	90	90	120	120	120	900	
20			Grand Total	120	120	120	240	240	240	360	360	360	480	480	480	3600	

	А	В	С	D	E	F	G	Н	1	J
1	SUN			_						
2										
3			Horizontal							
4			100	200	300	600	=SUM(C4	E4)		
5			Vertical	1						
6 7			Vertical 100							
8			200							
9			300							
10			600	=SUM(C7	:C9)					
11						-				
12				ingle Cells	200	000				
13 14			100	200	300	600		3,D14,E13)		
14				200	1					
16			Mu	ltiple Range	es	1				
17			100		400]				
18			200		500					
19			3000	l	600		7.010 517.	=10)		
20 21					4800	=50101(C1	7:C19,E17:	=19)		
22				Functions		1				
23			100		400					
24			200		500					
25			300		600					
26					800	=SUM(AV	ERAGE(C2	3:C25),MA	X(E23:E25))
27 28	Wł	nat Doe	s It Do ?							
29			on creates a te	otal from a	list of numb	ers.				
30			sed either hor							
31	The	e numbe	ers can be in s	single cells,	ranges are	from other	functions.			
32	C 14									
33 34		ntax	nge1,Range2,	Panga? t	hrough to P	ande30)				
34	-3	ωιναι	ige±,i\aliyez,	าณาษุธง เ	n ough to R	ungeou).				
36		rmatting	5							
37	No	special	formatting is	needed.						
38										
39 40										
40	No	te								
42			ole use the =S	UM() functi	on incorrec	tly.				
43										
44			ple shows how				h plus + sy	mbols.		
45			a is actually d							
46 47	IT S	noula h	ave been ente	ereu as eith	$e_1 = C48 + C^2$	+9+C20 0l =	50M(C48)	LOU).		
47			100	1						
49			200	1						
50			300							
51			600		8+C49+C5		Wrong!			
52				=SUM(C4			Correct			
53				=C48+C4	9+000		Correct			

	A B	C	D	E	F	G	Н		I	J
1	SUM (Ru	nnina Ta	otal)							
2										
3	-									
4	-	Using =SU	M() For A	Running To	otal					
5	-		<u> </u>							
c				Running						
6		Month	Sales	Total						
7		Jan	10	10	=SUM(\$D\$					
8		Feb	50	60	=SUM(\$D\$	67:D8)				
9		Mar	30	90	=SUM(\$D\$,				
10		Apr	20	110	=SUM(\$D\$					
11	_	May		110	=SUM(\$D\$,				
12		Jun		110	=SUM(\$D\$,				
13		Jul		110	=SUM(\$D\$,				
14		Aug		110	=SUM(\$D\$,				
15	_	Sep		110	=SUM(\$D\$,				
16	_	Oct		110	=SUM(\$D\$,				
17	_	Nov		110	=SUM(\$D\$,				
18	_	Dec		110	=SUM(\$D\$	67:D18)				
19	_				、 <u>-</u> -					
20	_) in cell E7 a					
21	_				e uses dolla					,
22	_				ach occurrer	ice of the =	SUM() tr	nen ad	ds all	
23	_	the number	rs from the	first cell dov	wn.					
24	_									
25	_				how 0 zero	when there	is no ad	jacent	value	
26	_	by using th	e =I⊢() func	ction.						
27	_				1					
28		D. d. a. a. d. la	Quint	Running						
	4	Month	Sales	Total			7 ())			
29	4	Jan	10	10	=SUM(IF(E					
30	4	Feb	50 30	60	=SUM(IF(E		,			
31	4	Mar		90	=SUM(IF(E		,			
32	4	Apr	20	110 0	=SUM(IF(E					
33	-	May			=SUM(IF(E					
34	4	Jun		0	=SUM(IF(E			where		
35	-	Jul		-	The =SUM			when		
36	4	Aug		0	there is da			ontoro	ч	
37	4	Sep		0	Otherwise	uie value (Zeroise	entere	u.	
38	_	Oct		0						
39	_	Nov		0						
40	1	Dec		0	1					

			-12012013					raye	105 01 195
	A B	С	D	E	F	G	Н	I	J
1	SUM	(and the	=OFFS	ET Fun	ction)				
2									
3		Sometimes i							
4		An example					ain months	of the year,	such as
5		the last 3 mc	onths in rel	lation to the	e current da	te.			
6								.	
7		One solution					e new data	is entered,	but this
8		would be tim	ie consum	ing and ope	en to numa	n error.			
9		A better way	vic to india	ata tha ata	rt and and r	point of the	ranga ta ba	algulated	by
10 11		using the =C			n anu enu p		range to be	calculateu	Бу
12		using the -C							
13		The =OFFSE	T() picks	out a cell a	certain nu	mber of cell	s away fron	n another ce	2
14		By giving the							
15		be totalled, v					-		
16		will give us th							
17		U					Ũ		
18		The =OFFSE	ET() needs	s to know th	nree things;				
19								should base	
20						•		arting point.	
21		3	. How mar	ny columns	it should lo	ok left or rig	ght from the	e starting po	int.
22			r	-					
23		Total		Jan	Feb	Mar	Apr	May	
24		10		10	400	500	600	700	-
25		=SUM(E24:0			, <u>,</u>				
26		This example					no rows or	columns wi	ncn
27		results in the	e range be	ing summe	d as E24:E	24.			
28 29		410	1	10	400	500	600	700	1
<u>29</u> 30		=SUM(E29:0			400	500	000	700	
31		This example			arting noint	and offsets	1 col to nic	k out	
32		cell F29 resu			• •		•	R Out	
33		0011201000	and ing in a c		2011 20 801				
34		910	[10	400	500	600	700	
35		=SUM(E34:0							
36		This example			arting point	and offsets	2 cols to pi	ck out	
37		cell G34 resu	ulting in a	the range E	34:G34 be	ing summe	d.		
38									
39		Using =OFF	SET() Twi	ice In A Fo	ormula				
40							_		
41		The following			-SET() to p	ick both the	e start and e	end of the ra	nge
42		which needs	to be tota	lled.					
43		Total	г	lon	Fab	Mor	Apr	More	I
44 45		Total 400		Jan 10	Feb 400	Mar 500	Apr 600	May 700	
45 46		=SUM(OFFS					000	100	l
40 47		The cell E45	•	,	. ,,		n offeete an	d each hac	
47 48		been offset b							
49		range F45:F4				-	.0.10.0000		
50			2.0. 010		caroan				
51		900	I	10	400	500	600	700	
52		=SUM(OFFS	SET(<mark>E51</mark> ,0						
JZ	t	The cell E51					offsets, the	e first offset	is
53 54		offset by 1 co	olumn, the	second by	[,] 2 columns	. The result	is the rang	e For Gor	which
53 54		offset by 1 co is then totalle		second by	2 columns	. The result	is the rang	e F51.G51	WNICN
53 54 55		is then totalle		second by	2 columns	. The result	is the rang	e F51.G51	wnicn
53		-	ed.	10	400	500	600	700	

	A B	C D	E	F	G	Н	I	J
59		The cell E57 has beer	used as th	e starting p	oint for both	offsets, th	e first offset	is
60	1	offset by 1 column, the	e second by	3 columns	. The result	is the rang	e F57:H57 w	/hich
61	1	is then totalled.						
62	1							
63	1							
64	1	Example						
65]							
66		The following table sh	ows five mo	onths of dat	a.			
67		To calculate the total of	of a specific	group of m	onths the =	OFFSET()	function has	been used.
68		The Start and End dat		in cells F71	and F72 a	re used as t	the offset to	produce
69		a range which can be	totalled.					
70					-			
71		Type in the S						
72		Type in the	End month.	Mar-98				
73	4					_		
74	-	Total	Jan-98	Feb-98	Mar-98	Apr-98	May-98	
75	-	900	10	400	500	600	700	
76	-							
77	-	1020	15	20	1000	2000	3000	
78	-		_	0				
79	-	13	5	3	10	800	900	
80	-	=SUM(OFFSET(D79,	0,MONTH(H	-71)):OFFS	SET(D79,0,N	/IONTH(F/)	2)))	
81	-	E la matian						
82	-	Explanation	rankaaant a	brookdow	a of what the		F function do	~~
83	1	The following formula	•					
84	-	The formula displayed dates into cells F71 ar		only durin	lies, but the	y will upual	e as you em	lei
85	-	uales into cells F71 al	IU F72.					
86 87	{	Formula 1 =SUM(OF				0 070)TSET		(2)))
88	{	•	•	•	by the use	•		<i>_</i>)))
89	+					•		
90	-	Formula 2 =SUM(OF	ESET(D79			T(D79.0 M	ONTH(3)))	
90	-	•	•	•		•	onth number	
92	-						Feb and Ma	
93	1				ative to cell I			
94	1							
95	1	Formula 3 =SUM(OF	FSET(D79.	0.2) : OFFS	SET(D79.0.3	3))		
96	1						OFFSET fur	nction.
97	1							-
98	1	Formula 4 =SUM(F7	9:G79)					
99	1			OFFSET ev	ventually eq	uates to cel	ll addresses	
100	1				JM function.			
	1							

	A B C	D E	F	G	Н	I	J
1	SUM and the =OI	FFSET func	tion	·		·	
2							
3	Sometimes it is						
4	An example wou				in months	of the year,	such as
5	the last 3 month	s in relation to th	ie current da	ite.			
6	One colution we	uld be to returne	the coloulati	on oooh tim	o now data	ic optorod	but this
7	One solution wo would be time co				e new uala	is entered,	but this
<u> </u>		onsuming and op		n enor.			
10	A better way is t	o indicate the sta	art and end i	point of the r	range to be	calculated	hv
11	using the =OFFS				unge to be	oulouluteu	S y
12		0					
13	The =OFFSET()	picks out a cell	a certain nu	mber of cell	s away fror	n another ce	ell.
14	By giving the =C	DFFSET() the ad	dress of the	first cell in t	he range w	hich needs	to
15	be totalled, we c	an then indicate	how far awa	ay the end c	ell should b	be and the =	OFFSET()
16	will give us the a	address of cell w	hich will be t	the end of th	ie range to	be totalled.	
17	_						
18	The =OFFSET()						
19		cell address to u					
20		ow many rows it		•		• •	
21 22	3. HU	ow many column	S IL SHOUID IC		Jur nom me	starting po	Int.
22	Total	Jan	Feb	Mar	Apr	May	1
23	10	10	400	500	600	700	
25	=SUM(E24:OFF		400	000	000	100	
26	This example us		tarting point	and offsets	no rows or	columns wh	nich
27	results in the rar						
28		3					
29	410	10	400	500	600	700	
30	=SUM(E29:OFF	SET(E29,0,1))				-	
31	This example us	ses E29 as the st	tarting point	and offsets	1 col to pic	k out	
32	cell F29 resulting	g in a the range	E29:F29 bei	ng summed	i.		
33			-				
34	910	10	400	500	600	700	
35	=SUM(E34:OFF						
36		ses E34 as the st				ck out	
37	cell G34 resultin	ig in a the range	E34:G34 be	ing summed	ן.		
38 39	Using =OFFSE		ormula				
40			ormula				
41	The following ex	amples use =OF	FSET() to p	ick both the	start and e	end of the ra	nae
42	which needs to l		· () •• P				J -
43	1						
44	Total	Jan	Feb	Mar	Apr	May	
45	400	10	400	500	600	700	
46	=SUM(OFFSET	(E45,0,1):OFFSI	ET(E45,0,1)))			
47	The cell E45 has						
48	been offset by ju			-	45 is used	as the	
49	range F45:F45 f	or the sum funct	ion to calcul	ate.			
50			100		000	700	
51	900		400	500	600	700	
52	=SUM(OFFSET				offooto the	first aff '	
53	The cell E51 has						
54	offset by 1 colun is then totalled.	nn, the second b	y ∠ columns	. The result	is the rang	6 FDT:091 /	WHICH
55	is then totalled.						
56				500			
57	1500	10	400	500	600	700	

	A	В	С	D	E	F	G	Н		J
58		-	-	_		⊥ T(<mark>E57</mark> ,0, <mark>3</mark>))	-		· ·	_
59						e starting p	oint for both	offsets, the	e first offset	is
60	1					3 columns				
61	1		is then tota					C C		
62	1									
63	1									
64			Example							
65										
66						onths of data				
67			To calculat	e the total o	of a specific	group of m	onths the =	OFFSET() 1	function has	s been used.
68						in cells F71	and F72 ar	e used as t	he offset to	produce
69			a range wh	hich can be	totalled.					
70										
71	1			ype in the S						
72			T	Type in the I	End month.	Mar-98				
73	1				_	_				
74			Total		Jan-98	Feb-98	Mar-98	Apr-98	May-98	
75	_		900		10	400	500	600	700	
76										
77			1020		15	20	1000	2000	3000	
78						-	-			
79			13		5	3	10	800	900	
80	-		=SUM(OF	FSET(D79,	0,MONTH(F71)):OFFS	ET(D79,0,N	/ONTH(F7)	2)))	
81	-									
82	-		Explanatio					0==0==		
83	-			•	•	l breakdowr				
84	-					only dumm	ies, but the	y will updat	e as you er	iter
85	-		uates into (cells F71 ar	iu ⊢72.					
86	-		Formula 1				-71)) • ОГГ			70)))
87	-		ronnula 1			0,MONTH				(_)))
88 89	-				aciual 10/11	ula entered	by the user	•		
	-		Eormula 2			0,MONTH(
90 91	-		i onnula 2			MONTH fur				
91	{					lues of the i				
92	-				•	offsets' rela				ai.
<u>93</u> 94	-			inese valu	כש מופ נוופ			JI 9.		
94 95	-		Eormula 2			0,2) : OFFS		8))		
95	{		i onnula 3			month num				nction
90	-			1115 511048			beis ale us		JEFJET IU	
	-		Formula 4		0.0201					
98	-		ronnula 4				ontually or	lates to col	Laddroccor	
99	-					OFFSET ev			auuresses)
100				to be used	as a range	for the =SU	ivi lunction.			

	A B	С	D	E	F	G	Н	I	J
1	SUMIF								
2									
3		Item	Date	Cost					
4		Brakes	1-Jan-98	80					
5		Tyres	10-May-98	25					
6		Brakes	1-Feb-98	80					
7		Service	1-Mar-98	150					
8		Service	5-Jan-98	300					
9		Window	1-Jun-98	50					
10		Tyres	1-Apr-98	200					
11		Tyres	1-Mar-98	100					
12 13		Clutch	1-May-98	250					
13	Total	ost of all Brakes	s hought		160		N-C12 "Pro	kes",E4:E12)	
15		ost of all Tyres			325			es",E4:E12)	
16		of items costing :		<u> </u>	1000		E4:E12,">=1		
17	Total	interno cooting i			1000				
18	Total o	of item typed in f	ollowing cell.	service	450	=SUMIF(C	C4:C12,E18	.E4:E12)	
19						1	,,	,,	
20									
21	What	Does It Do ?							_
22	This fu	inction adds the	value of items	s which mate	ch criteria s	et by the us	ser.		
23									
24	Synta								
25	=SUM	IF(RangeOfThir	igsToBeExam	ined,Criteria	ToBeMatch	ned,RangeC	OfValuesTo	Total)	-
26									
27	=SUM	IF(C4:C12,"Bral	kes",E4:E12)	This exami				C12.	
28						ntries for Br			
29				It then tota	s the respe	ective figure	s in E4:E12		
30	<u>.</u>		2.0.III)						
31	=SUN	1IF(E4:E12,">=1	.00")			ues in E4:E			
32				If the value	is >=100 ti	ne value is a	added to the	e total.	
33	Forme	tting							
34 35	Forma	ecial formatting i	s poodod						
35	NO SPE	ecial iormatting i	s neeueu.						

SUMPRODUCT

Item	Sold	price
Tyres	5	100
Filters	2	10
Bulbs	3	2

Total Sales Value : 526 =SUMPRODUCT(D4:D6,E4:E6)

What Does It Do ?

This function uses at least two columns of values.

The values in the first column are multipled with the corresponding value in the second column. The total of all the values is the result of the calculation.

Syntax

=SUMPRODUCT(Range1, Range, Range3 through to Range30)

Formatting

No special formatting is needed.

Example

The following table was used by a drinks merchant to keep track of stock. The merchant needed to know the total purchase value of the stock, and the potential value of the stock when it is sold, takinging into account the markup percentage.

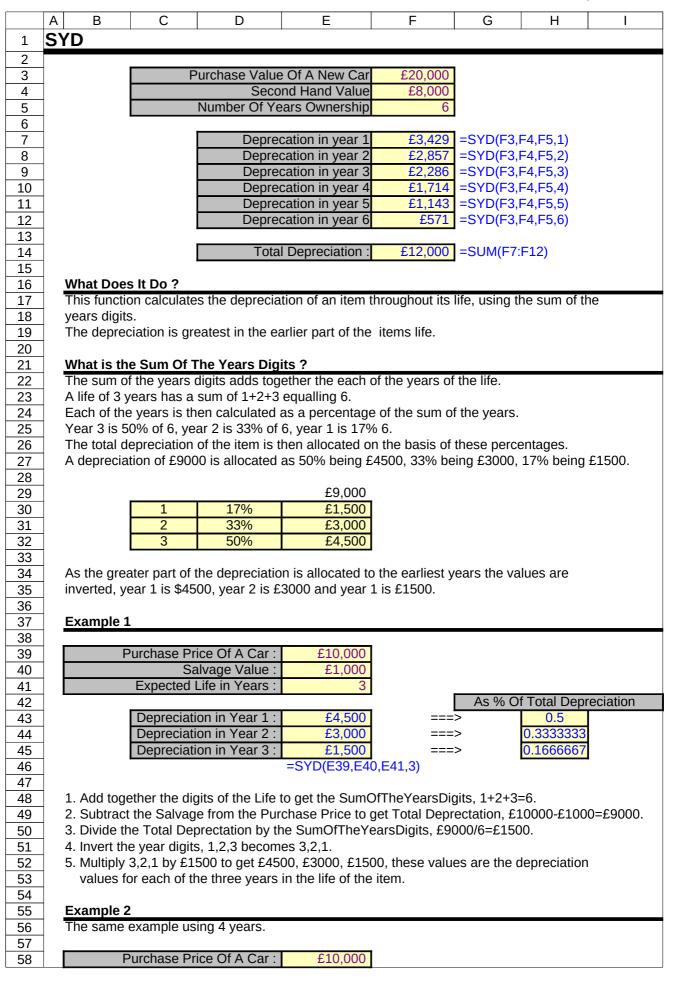
The =SUMPRODUCT() function is used to multiply the Cases In Stock with the Case Price to calculate what the merchant spent in buying the stock.

The =SUMPRODUCT() function is used to multiply the Cases In Stock with the Bottles In Case and the Bottle Setting Price, to calculate the potential value of the stock if it is all sold.

	Cases In	Case	Bottles	Bottle		Bottle Selling		
Product	Stock	Price	In Case	Cost	Markup	Price		
Red Wine	10	£120	10	£12.00	25%	£15.00		
White Wine	8	£130	10	£13.00	25%	£16.25		
Champagne	5	£200	6	£33.33	80%	£60.00		
Beer	50	£24	12	£2.00	20%	£2.40		
Lager	100	£30	12	£2.50	25%	£3.13		
=D39/E39 =F39+F39*G								

Total Value Of Stock :	£7,440	=SUMPRODUCT(C35:C39,D35:D39)
Total Selling Price Of Stock :		=SUMPRODUCT(C35:C39,E35:E39,H35:H39)

Profit : £2,350 =E44-E43



SYD

		6	D	– 1		<u> </u>		
F 0	A B	C	D Ilvage Value :	E £1,000	F	G	H	I
59			Life in Years :					
60		Expected	Life in Years :	4				
61	-	Deverencient		000.00		AS % C	of Total Depi	Iciation
62	1		on in Year 1 :	£3,600			0.4	
63	-		on in Year 2 :	£2,700			0.3	
64	-		on in Year 3 :	£1,800			0.2	
65	-		on in Year 4 :	£900			0.1	
66	-	l otal I	Depreciation :	£9,000			100%	
67		-						
68	Example			. .				
69	This exam	nple will adju	st itself to acco	ommodate any r	number of yea	rs between	1 and 10.	
70								
71	_		ice Of A Car :	£10,000				
72			lvage Value :	£1,000				
73	Expect	ed Life in Ye	ars (1 to 10) :	7				
74		_				As % C	of Total Depi	riciation
75		Year	1	£2,250			25%	
76		Year	2	£1,929			21%	
77		Year	3	£1,607			18%	
78		Year	4	£1,286			14%	
79		Year	5	£964			11%	
80		Year	6	£643			7%	
81		Year	7	£321			4%	
82]	Year						
83]	Year						
84]	Year						
85]			£9,000			100%	
86]		•					
87	Syntax							
88		ginalCost,Sa	lvageValue,Lif	e,PeriodToCalc	ulate)			
89	1	- ,	J		,			
90	Formattir	ng						
91		l formatting i	s needed.					
<u> </u>								

Т

	A B	С	D	E	F	G	Н	I	J	
1	Т							•		
2					_					
3			Cell To Test	Result						
4			Hello	Hello	=T(D4)					
5			10		=T(D5)					
6			1-Jan-98		=T(D6)					
7					=T(D7)					
8										
9	What Does It Do ?									
10	This function examines an entry to determine whether it is text or not. If the value is text, then the text is the result of the function									
11	•				the function					
12			the result is a							
13	4		ecifically need	еа ру Ехсе	i, but is inci	uded for co	mpatibility v	vith		
14	other spre	adsheet pro	grams.							
15	Curretov									
16	Syntax									
17	=T(CellTo	rest)								
18	Formattin	a								
19	Formattin		ic poodod							
20	ino specia	l formatting	is needed.							

	A B	С	D	E	F	G	Н	I	J	
1	TEXT									
2				_						
3		Original	Converted							
		Number	To Text							
4		10	10.00	=TEXT(C4	· · · · · · · · · · · · · · · · · · ·					
5		10	£10.00	=TEXT(C5	· · · · · · · · · · · · · · · · · · ·					
6		10	10	=TEXT(C6						
7		10	£10	=TEXT(C7						
8		10.25	10.3	=TEXT(C8	3,"0.0")					
9		10.25	£10.3	=TEXT(C9	9,"£0.0")					
10				_						
11	What Does									
12	This function	on converts a r	lumber to a	piece of tex	kt.					
13	The format	ting for the tex	t needs to b	e specified	in the funct	ion.				
14										
15	Syntax									
16	=TEXT(Nur	mberToConver	t,FormatFo	rConversio	ר)					
17										
18	Formatting									
19	No special	formatting is re	equired.							

TIME

	A B	С	D	E	F	G	Н	Ι
1	TIME							
2								
3		Hour	Minute	Second	Time			
4		14	30	59	14:30:59	=TIME(C4,D4,E4)		
5		14	30	59	2:30:59 PM	=TIME(C5,D5,E5)		
6		14	30	59	0.60485	=TIME(C6,D6,E6)		
7						-		
8	What Does							
9	This function	on will conv	ert three se	parate num	bers to an actua	al time.		
10								
11	Syntax							
12	=TIME(Ho	ur,Minute,S	Second)					
13								
14	Formatting							
15						ther as 12 or 24 hour s		
16	If a normal	number for	mat is appli	ed a decim	al fraction is sho	own which represents th	he	
17	time as a fr	action of th	e day.					

	A B	С	D	E	F	G	Н				
1	TIMEVAL	UE									
2											
3		Text	Time								
4		14:30:59	0.604849537	=TIMEVALUE(C4)							
5		14:30:59	14:30:59	=TIMEVALUE(C5)							
6		14:30:59	2:30:59 PM	=TIMEVALUE(C6)							
7				-							
8	What Does	What Does It Do?									
9	This function	on will show an a	ctual time based o	n a piece of text which I	ooks						
10	like a time.	It is useful when	data is imported f	rom other applications,	such as						
11	from mainf	rame computers,	which convert all	values to text.							
12											
13	Syntax										
14	=TIMEVAL	_UE(Text)									
15											
16	Formatting										
17				nting the time a fractior	n of the day.						
18	Formatting	can be applied f	or either the 12 or	24 hour clock system.							

TODAY

	A B	C	D	E	F	G	Н
1	TODAY						
2		_	_				
3		Today Is					
4		20-Apr-15	=TODAY()				
5			-				
6	What Does						
7	Use this to	show the curre	ent date.				
8	_						
9	Syntax						
10	=TODAY())					
11							
12	Formatting				r ,		
13	I ne result	will normally be	e displayed usi	ng the DD-MMM-YY	format.		
14	Evennele						
15 16	Example	na ovamnlo sh	ows how the T	oday function is used	to calculato	the number	I A A A A A A A A A A A A A A A A A A A
10		ce a particular		ouay function is used			
18		ce a particulai	uay.				
19	-	Date	Days Since	1			
20	_	1-Jan-97	04/18/18	=TODAY()-C20			
21	_	10-Aug-97	09/09/17	=TODAY()-C21			
22	-						
23	-						
24	Note that th	he result is act	ually the numbe	er of days before toda	ays date. To	calculate	
25	a result wh	ich includes th	e current date	an extra 1 will need to	o be added.		
26							
27		Date	Days Since				
28		1-Jan-97	6684	=TODAY()-C28+1			
29		10-Aug-97	6463	=TODAY()-C29+1			
30							
31							
32	Example						
33	The followi	ng example sh	lows the numbe	er of days from today	until the yea	r 2000.	
34	-						
35	-	Year 2000	Days Until				
36		01-Jan-2000	09/11/84	=C36-TODAY()			

Image: system of the system		A B	С	D	E	F	G	Н	I	J
3 Jan Feb 4 10 30 5 Bob 40 50 6 Carol 70 80 7 Total 120 160 8 Alan Bob Carol Total 10 Jan 10 40 70 120 11 Jan 10 40 70 120 11 Feb 30 50 80 160 12 Feb 30 50 80 160 13 Id As an array formula in all these cells As an array formula in rows, and the data originally in rows is in columns. 16 This function copies data from a range, and places in it in a new range, turning it so that the data originally in columns is now in rows, and the data originally in rows is in columns. 12 The transpose range must be the same size as the original range. The function needs to be entered as an array formula. 24 To enter an array formula you must first highlight all the cells where the formula is required. 25 Next type the formula, such as =TRANSPOSE(A1:A5). Finally press Ctrl+Shift+Enter to confirm it.	1	TRANS	POSE							
4 5 6 7 7 800 9 Alan 10 120 11 120 12 13 14 15 15 6 16 As an array formula in all these cells 17 18 What Does It Do ? 18 What Does It Do ? 19 This function copies data from a range, and places in it in a new range, turning it so that the data originally in columns is now in rows, and the data originally in rows is in is in columns. 20 The transpose range must be the same size as the original range. 21 To enter an array formula you must first highlight all the cells where the formula is required. 22 Next type the formula, such as =TRANSPOSE(A1:A5). 26 Finally press Ctrl+Shift+Enter to confirm it. 27 If changes need to be made to the formula, the entire array has to be highlighted, the edits can then be made and the Ctrl+Shift+Enter used to confirm it. 27 Syntax 29 30 30 Syntax 31 Formatting	2					_				
S Bob 40 50 6 Carol 70 80 7 Total 120 160 8 9 Alan Bob Carol Total 10 Jan 10 40 70 120 11 Feb 30 50 80 160 12 13 (=TRANSPOSE(C3:E7))	3			Jan	Feb					
G Total 120 160 7 80 Total 120 160 9 10 Jan 10 40 70 120 11 Jan 10 40 70 120 11 Feb 30 50 80 160 12 Image: State of the				-						
Total 120 160 8 a Alan Bob Carol Total 10 Jan 10 40 70 120 11 Feb 30 50 80 160 12 13 Image: Carol Feb 120 120 13 Feb 30 50 80 160 12 Image: Carol Feb 30 50 80 160 14 Image: Carol Feb 30 50 80 160 12 Image: Carol Feb 30 50 80 160 14 Image: Carol Feb 30 50 80 160 15 Image: Carol Feb 30 50 80 160 16 Alan Bob Carol Feb Image: Carol Feb 100 11 100 16 Alan Bob Carol Feb Image: Carol Feb 100 100 100 100 17 Image: Carol Feb Image: Carol Feb 100 100 100 100 100 100 100 100 100	-									
8 9 10 Alan Bob Carol Total 11 Jan 10 40 70 120 11 Feb 30 50 80 160 12 13 [=TRANSPOSE(C3:E7)]										
9 Alan Bob Carol Total Jan 10 40 70 120 11 Feb 30 50 80 160 12 13 [=TRANSPOSE(C3:E7)]			Total	120	160					
10 Jan 10 40 70 120 11 Feb 30 50 80 160 12 13 Feb 30 50 80 160 14 Feb 30 50 80 160 14 As an array formula in all these cells Feb 160 Feb 160 14 As an array formula in all these cells Feb 160 Feb 160 Feb 16 As an array formula in all these cells Feb 160 Feb 160 Feb 17 Mathematical originally in columns is now in rows, and the data originally in rows is in columns. Feb 100 Feb 110 Feb							-	1		
11 Feb 30 50 80 160 12 13 [=TRANSPOSE(C3:E7)]		-	1							
12 13 13 [=TRANSPOSE(C3:E7)) 14 15 15 As an array formula in all these cells 17 Image: Comparison of the equation of the equ										
13 Image: space state stat			Feb	30	50	80	100			
14 15 16 17 18 19 19 11 12 13 14 15 16 17 18 19 19 11 12 13 14 15 16 17 18 What Does It Do ? This function copies data from a range, and places in it in a new range, turning it so that the data originally in columns is now in rows, and the data originally in rows is in columns. 21 is in columns. 22 The transpose range must be the same size as the original range. 23 The function needs to be entered as an array formula. 24 To enter an array formula you must first highlight all the cells where the formula is required. 25 Next type the formula, such as =TRANSPOSE(A1:A5). 26 Finally press Ctrl+Shift+Enter to confirm it. 27 If changes need to be made to the formula, the entire array has to be highlighted, the edits can then be made and the Ctrl+Shift+Enter used to confirm it.					7))			1		
15 As an array formula in all these cells 17 As an array formula in all these cells 17 This function copies data from a range, and places in it in a new range, turning it so that the data originally in columns is now in rows, and the data originally in rows is in columns. 20 The the data originally in columns is now in rows, and the data originally in rows is in columns. 21 Is in columns. 22 The transpose range must be the same size as the original range. 23 The function needs to be entered as an array formula. 24 To enter an array formula you must first highlight all the cells where the formula is required. 25 Next type the formula, such as =TRANSPOSE(A1:A5). 26 Finally press Ctrl+Shift+Enter to confirm it. 27 If changes need to be made to the formula, the entire array has to be highlighted, the edits can then be made and the Ctrl+Shift+Enter used to confirm it. 29 30 30 Syntax 31 =TRANSPOSE(Range) 32 33 Formatting	_				()}					
16 As an array formula in all these cells 17 Image: the state of t										
17 What Does It Do ? 19 This function copies data from a range, and places in it in a new range, turning it so that the data originally in columns is now in rows, and the data originally in rows is in columns. 21 is in columns. 22 The transpose range must be the same size as the original range. 23 The function needs to be entered as an array formula. 24 To enter an array formula you must first highlight all the cells where the formula is required. 25 Next type the formula, such as =TRANSPOSE(A1:A5). 26 Finally press Ctrl+Shift+Enter to confirm it. 27 If changes need to be made to the formula, the entire array has to be highlighted, the edits can then be made and the Ctrl+Shift+Enter used to confirm it. 29 30 30 Syntax 31 =TRANSPOSE(Range) 32 Formatting				As an array	i formula in a	ll these cell	s	1		
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19This function copies data from a range, and places in it in a new range, turning it so that the data originally in columns is now in rows, and the data originally in rows20that the data originally in columns is now in rows, and the data originally in rows21is in columns.22The transpose range must be the same size as the original range.23The function needs to be entered as an array formula.24To enter an array formula you must first highlight all the cells where the formula is required.25Next type the formula, such as =TRANSPOSE(A1:A5).26Finally press Ctrl+Shift+Enter to confirm it.27If changes need to be made to the formula, the entire array has to be highlighted, the edits can then be made and the Ctrl+Shift+Enter used to confirm it.293030Syntax =TRANSPOSE(Range)31Formatting		What D	oes It Do ?							
20 that the data originally in columns is now in rows, and the data originally in rows 21 is in columns. 22 The transpose range must be the same size as the original range. 23 The function needs to be entered as an array formula. 24 To enter an array formula you must first highlight all the cells where the formula is required. 25 Next type the formula, such as =TRANSPOSE(A1:A5). 26 Finally press Ctrl+Shift+Enter to confirm it. 27 If changes need to be made to the formula, the entire array has to be highlighted, the edits can then be made and the Ctrl+Shift+Enter used to confirm it. 29 30 30 Syntax 31 =TRANSPOSE(Range) 32 Formatting				ata from a r	ange, and p	places in it i	n a new rar	nge, turning	it so	
22 The transpose range must be the same size as the original range. 23 The function needs to be entered as an array formula. 24 To enter an array formula you must first highlight all the cells where the formula is required. 25 Next type the formula, such as =TRANSPOSE(A1:A5). 26 Finally press Ctrl+Shift+Enter to confirm it. 27 If changes need to be made to the formula, the entire array has to be highlighted, the edits can then be made and the Ctrl+Shift+Enter used to confirm it. 29 30 30 Syntax 31 =TRANSPOSE(Range) 32 Formatting	20	that the	data originally	in columns	s is now in r	ows, and th	e data origi	nally in row	'S	
23 The function needs to be entered as an array formula. 24 To enter an array formula you must first highlight all the cells where the formula is required. 25 Next type the formula, such as =TRANSPOSE(A1:A5). 26 Finally press Ctrl+Shift+Enter to confirm it. 27 If changes need to be made to the formula, the entire array has to be highlighted, the edits can then be made and the Ctrl+Shift+Enter used to confirm it. 29 30 30 Syntax 31 =TRANSPOSE(Range) 32 33	21	is in col	umns.							
24 To enter an array formula you must first highlight all the cells where the formula is required. 25 Next type the formula, such as =TRANSPOSE(A1:A5). 26 Finally press Ctrl+Shift+Enter to confirm it. 27 If changes need to be made to the formula, the entire array has to be highlighted, the edits can then be made and the Ctrl+Shift+Enter used to confirm it. 29 30 30 Syntax 31 =TRANSPOSE(Range) 32 33 Formatting	22	The trai	nspose range	must be the	same size	as the origi	nal range.			
25 Next type the formula, such as =TRANSPOSE(A1:A5). 26 Finally press Ctrl+Shift+Enter to confirm it. 27 If changes need to be made to the formula, the entire array has to be highlighted, the edits can then be made and the Ctrl+Shift+Enter used to confirm it. 29 30 30 Syntax 31 =TRANSPOSE(Range) 32 33 Formatting	23	The fun	ction needs to	be entered	as an array	r formula.				
25 Next type the formula, such as =TRANSPOSE(A1:A5). 26 Finally press Ctrl+Shift+Enter to confirm it. 27 If changes need to be made to the formula, the entire array has to be highlighted, the edits can then be made and the Ctrl+Shift+Enter used to confirm it. 29 30 30 Syntax 31 =TRANSPOSE(Range) 32 33	24	To ente	r an array forn	nula vou mu	st first high	light all the	cells where	the formula	a is required	I.
26 Finally press Ctrl+Shift+Enter to confirm it. 27 If changes need to be made to the formula, the entire array has to be highlighted, the edits can then be made and the Ctrl+Shift+Enter used to confirm it. 29 30 30 Syntax 31 =TRANSPOSE(Range) 32 33	25									
28 can then be made and the Ctrl+Shift+Enter used to confirm it. 29 30 30 Syntax 31 =TRANSPOSE(Range) 32 33 33 Formatting	26	Finally	oress Ctrl+Shi	ft+Enter to a	confirm it.					
28 can then be made and the Ctrl+Shift+Enter used to confirm it. 29 30 30 Syntax 31 =TRANSPOSE(Range) 32 33 33 Formatting	27	If chanc	es need to be	made to the	e formula, tł	ne entire arr	ay has to b	e highlighte	ed, the edits	
29 Syntax 31 =TRANSPOSE(Range) 32	28								, .	
31 =TRANSPOSE(Range) 32 33 Formatting		1								
32 33 Formatting	30									
33 Formatting		=TRAN	SPOSE(Rang	e)						
34 No special formatting is needed										
	34	No spec	cial formatting	is needed.						

TREND

	A B C D	E	F	G	Н	I	J
1	TREND WHAT IS CON	NST b?				1	
2							
3	Historical Data	Predicted	d Values				
4	Month Sales	Month	Sales				
5	1 £1,000	7	£4,940	{=TREND(C8:C13,B8	8:B13,E8:	E13)}
6	2 £2,000	8	£5,551	{=TREND(C5:C10,B5	5:B10,E5:	E10)}
7	3 £2,500	9	£6,163	{=TREND(
8	4 £3,500	10	£6,774	{=TREND(
9	5 £3,800	11	£7,386	{=TREND(
10	6 £4,000	12	£7,997	{=TREND(C5:C10,B5	5:B10,E5:	E10)}
11							
12	What Does It Do ?	and upon thro	a aata of r	alatad valua	0		
13	This function predicts values ba The prediction is based upon th						
14 15	The function is an array function			-			
16	The function is an array function	n and must be	entereu us	sing curi Si			
17	Syntax						
18	=TREND(KnownYs,KnownXs,R	RequiredXs.Co	nstant)				
19	The KnownYs is the range of va			ures.			
20	The KnownXs is the intervals us		•		s Months.		
21	The RequiredXs is the range fo		-			as Months	S.
22	The Constant I have no fuccking	g idea what its	about!				
23							
24	Formatting						
25	No special formatting is needed	1.					
26							
27	Example	b	. to succeiet		بريمين المار مدم وط	4.0	
28	The following tables were used make a profit.	by a company	lo predici	when they	would start	10	
29 30	Their bank manager had told th	e company th	at unlass th	nov could sh	ow a profit	t hy tho	
31	end of the next year, the bank v					by the	
32	To prove to the bank that, base					nv would	
33	start to make a profit at the end						
	Start to make a pront at the one	of the next ye	ar, the =TF	REND() func	uon was u	sed.	
34	The historical data for the past				uon was u	sed.	
34 35		year was ente	red, month		aion was u	sed.	
35 36	The historical data for the past	year was ente ered, 13 to 24	red, month	s 1 to 12.			t.
35 36 37	The historical data for the past The months to predict were ent	year was ente ered, 13 to 24	red, month	s 1 to 12.			t.
35 36 37 38	The historical data for the past the months to predict were enter The =TREND() function shows	year was ente ered, 13 to 24 that it will be n	red, month nonth 22 b	s 1 to 12.			t.
35 36 37 38 39	The historical data for the past of the months to predict were entry The =TREND() function shows Historical Data	year was ente ered, 13 to 24. that it will be n Predicted	red, month nonth 22 b d Values	s 1 to 12.			t.
35 36 37 38 39 40	The historical data for the past y The months to predict were entr The =TREND() function shows Historical Data Month Profit	year was ente ered, 13 to 24. that it will be n Predicted Month	red, month nonth 22 b d Values Profit	s 1 to 12. efore the co	mpany ma	ke a profi	
35 36 37 38 39 40 41	The historical data for the past y The months to predict were entry The =TREND() function shows Historical Data Month Profit 1 -£5,000	year was ente ered, 13 to 24. that it will be n Predicted Month 13	red, month nonth 22 b Values Profit -£2,226	s 1 to 12. efore the co	mpany ma	ke a profi	
35 36 37 38 39 40 41 42	The historical data for the past ofThe months to predict were entedThe =TREND() function showsHistorical DataMonthProfit1-£5,0002-£4,800	year was ente ered, 13 to 24. that it will be n Predicted Month 13 14	red, month nonth 22 b Values Profit -£2,226 -£1,968	s 1 to 12. efore the co {=TREND(The	mpany ma	ke a profi	
35 36 37 38 39 40 41 42 43	The historical data for the past y The months to predict were entry The =TREND() function shows Historical Data Month Profit 1 -£5,000 2 -£4,800 3 -£4,600	year was ente ered, 13 to 24. that it will be n Predicted Month 13 14 15	red, month nonth 22 be d Values Profit -£2,226 -£1,968 -£1,709	s 1 to 12. efore the co {=TREND(The same	mpany ma	ke a profi	
35 36 37 38 39 40 41 42 43 44	The historical data for the past y The months to predict were entry The =TREND() function shows Historical Data Month Profit 1 -£5,000 2 -£4,800 3 -£4,600 4 -£4,750	year was ente ered, 13 to 24. that it will be n Predicted Month 13 14 15 16	red, month nonth 22 be d Values Profit -£2,226 -£1,968 -£1,709 -£1,451	s 1 to 12. efore the co {=TREND(The same function	mpany ma	ke a profi	
35 36 37 38 39 40 41 42 43 44 45	The historical data for the past y The months to predict were entry The =TREND() function shows Historical Data Month Profit 1 -£5,000 2 -£4,800 3 -£4,600	year was ente ered, 13 to 24. that it will be n Predicted Month 13 14 15	red, month nonth 22 be d Values Profit -£2,226 -£1,968 -£1,709	s 1 to 12. efore the co {=TREND(The same	mpany ma	ke a profi	
35 36 37 38 39 40 41 42 43 44	The historical data for the past of the months to predict were entry. The =TREND() function shows a second structure of the	year was ente ered, 13 to 24 that it will be n Predicted Month 13 14 15 16 17	red, month nonth 22 be d Values Profit -£2,226 -£1,968 -£1,709 -£1,451 -£1,193	s 1 to 12. efore the co {=TREND(The same function used	mpany ma	ke a profi	
35 36 37 38 39 40 41 42 43 44 45 46	The historical data for the past y The months to predict were entry The =TREND() function shows Historical Data Month Profit 1 -£5,000 2 -£4,800 3 -£4,600 4 -£4,750 5 -£4,800 6 -£4,500 7 -£4,000 8 -£3,800	year was ente ered, 13 to 24. that it will be n Predicted Month 13 14 15 16 17 18 19 20	red, month nonth 22 b Profit -£2,226 -£1,968 -£1,709 -£1,451 -£1,193 -£935	s 1 to 12. efore the co {=TREND(The same function used in	mpany ma	ke a profi	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	The historical data for the past y The months to predict were entry The =TREND() function shows Historical Data Month Profit 1 -£5,000 2 -£4,800 3 -£4,600 4 -£4,750 5 -£4,800 6 -£4,500 7 -£4,000 8 -£3,800 9 -£3,300	year was ente ered, 13 to 24. that it will be n Predicted Month 13 14 15 16 17 18 19 20 21	red, month nonth 22 be d Values Profit -£2,226 -£1,968 -£1,709 -£1,451 -£1,193 -£935 -£676 -£418 -£160	s 1 to 12. efore the co {=TREND(The same function used in all	mpany ma	ke a profi	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	The historical data for the past of the months to predict were entry. The =TREND() function shows Historical Data Month Profit 1 -£5,000 2 -£4,800 3 -£4,600 4 -£4,750 5 -£4,800 6 -£4,500 7 -£4,000 8 -£3,800 9 -£3,300 10 -£2,000	year was ente ered, 13 to 24. that it will be n Predicted Month 13 14 15 16 17 18 19 20 21 22	red, month nonth 22 be d Values Profit -£2,226 -£1,968 -£1,709 -£1,451 -£1,193 -£935 -£676 -£418 -£160 £98	s 1 to 12. efore the co {=TREND(The same function used in all cells	mpany ma	ke a profi	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	The historical data for the past of the months to predict were entry. The =TREND() function shows Historical Data Month Profit 1 -£5,000 2 -£4,800 3 -£4,600 4 -£4,750 5 -£4,800 6 -£4,500 7 -£4,800 8 -£3,800 9 -£3,800 10 -£2,000 11 -£2,500	year was ente ered, 13 to 24. that it will be n Predicted Month 13 14 15 16 17 18 19 20 21 22 23	red, month nonth 22 be d Values Profit -£2,226 -£1,968 -£1,709 -£1,451 -£1,193 -£935 -£676 -£418 -£160 £98 £356	s 1 to 12. efore the co {=TREND(The same function used in all cells as an array	mpany ma	ke a profi	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52	The historical data for the past of the months to predict were entry. The =TREND() function shows Historical Data Month Profit 1 -£5,000 2 -£4,800 3 -£4,600 4 -£4,750 5 -£4,800 6 -£4,500 7 -£4,000 8 -£3,800 9 -£3,300 10 -£2,000	year was ente ered, 13 to 24. that it will be n Predicted Month 13 14 15 16 17 18 19 20 21 22	red, month nonth 22 be d Values Profit -£2,226 -£1,968 -£1,709 -£1,451 -£1,193 -£935 -£676 -£418 -£160 £98	s 1 to 12. efore the co {=TREND(The same function used in all cells as an	mpany ma	ke a profi	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53	The historical data for the past y The months to predict were entrance The =TREND() function shows Historical Data Month Profit 1 -£5,000 2 -£4,800 3 -£4,600 4 -£4,750 5 -£4,800 6 -£4,800 7 -£4,800 8 -£3,800 9 -£3,300 10 -£2,000 11 -£2,500 12 -£2,800	year was ente ered, 13 to 24. that it will be n Predicted Month 13 14 15 16 17 18 19 20 21 22 23 24	red, month nonth 22 be d Values Profit -£2,226 -£1,968 -£1,709 -£1,451 -£1,193 -£935 -£676 -£418 -£160 £98 £356	s 1 to 12. efore the co {=TREND(The same function used in all cells as an array	mpany ma	ke a profi	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54	The historical data for the past of the months to predict were entry. The =TREND() function shows Historical Data Month Profit 1 -£5,000 2 -£4,800 3 -£4,600 4 -£4,750 5 -£4,800 6 -£4,500 7 -£4,800 8 -£3,800 9 -£3,300 10 -£2,000 11 -£2,800	year was ente ered, 13 to 24. that it will be n Predicted Month 13 14 15 16 17 18 19 20 21 20 21 22 23 24 ula	red, month nonth 22 be d Values Profit -£2,226 -£1,968 -£1,709 -£1,451 -£1,193 -£935 -£676 -£418 -£160 £98 £356 £615	s 1 to 12. efore the co fore the co (The same function used in all cells as an array formula	mpany ma	ke a profi	
$\begin{array}{c} 35\\ 36\\ 37\\ 38\\ 39\\ 40\\ 41\\ 42\\ 43\\ 44\\ 45\\ 46\\ 47\\ 48\\ 49\\ 50\\ 51\\ 52\\ 53\\ 54\\ 55\\ 55\\ 55\\ 55\\ 55\\ 55\\ 55\\ 55\\ 55$	The historical data for the past of the months to predict were entry. The months to predict were entry the =TREND() function shows and the s	year was ente ered, 13 to 24. that it will be n Predicted Month 13 14 15 16 17 18 19 20 21 22 23 24 ula ray is required	red, month nonth 22 be d Values Profit -£2,226 -£1,968 -£1,709 -£1,451 -£1,193 -£935 -£676 -£418 -£160 £98 £356 £615	s 1 to 12. efore the co {=TREND(The same function used in all cells as an array formula	mpany ma C41:C52,E	ke a profi 341:B52,E	E41:E52)}
$\begin{array}{c} 35\\ 36\\ 37\\ 38\\ 39\\ 40\\ 41\\ 42\\ 43\\ 44\\ 45\\ 46\\ 47\\ 48\\ 49\\ 50\\ 51\\ 52\\ 53\\ 54\\ 55\\ 56\\ \end{array}$	The historical data for the past of the months to predict were entry the =TREND() function shows Historical Data Month Profit 1 -£5,000 2 -£4,800 3 -£4,600 4 -£4,750 5 -£4,800 6 -£4,500 7 -£4,000 8 -£3,800 9 -£3,300 10 -£2,000 11 -£2,500 12 -£2,800 How To Enter An Array Formal Select all the cells where the arr Type the formula such as =TRE	year was ente ered, 13 to 24. that it will be n Predicted Month 13 14 15 16 17 18 19 20 21 22 23 24 ula ray is required	red, month nonth 22 be d Values Profit -£2,226 -£1,968 -£1,709 -£1,451 -£1,193 -£935 -£676 -£418 -£160 £98 £356 £615	s 1 to 12. efore the co {=TREND(The same function used in all cells as an array formula	mpany ma C41:C52,E	ke a profi 341:B52,E	E41:E52)}
$\begin{array}{c} 35\\ 36\\ 37\\ 38\\ 39\\ 40\\ 41\\ 42\\ 43\\ 44\\ 45\\ 46\\ 47\\ 48\\ 49\\ 50\\ 51\\ 52\\ 53\\ 54\\ 55\\ 55\\ 55\\ 55\\ 55\\ 55\\ 55\\ 55\\ 55$	The historical data for the past of the months to predict were entry. The months to predict were entry the =TREND() function shows and the s	year was ente ered, 13 to 24. that it will be n Predicted Month 13 14 15 16 17 18 19 20 21 22 23 24 ula ray is required END(C41:C52,	red, month nonth 22 be d Values Profit -£2,226 -£1,968 -£1,709 -£1,451 -£1,193 -£935 -£676 -£418 -£160 £98 £356 £615	s 1 to 12. efore the co {=TREND(The same function used in all cells as an array formula	mpany ma C41:C52,E	ke a profi 341:B52,E	E41:E52)}

TRIM

	A B	С	D	E	F	G	Н	I
1	TRIM							
2				_				
3		Original Text	Trimmed Text					
4		ABCD	ABCD	=TRIM(C4)			
5		ABCD	ABCD	=TRIM(C5)			
6		Alan Jones	Alan Jones	=TRIM(C6)			
7		ABCD	ABCD	=TRIM(C7)			
8				-				
9	What Does							
10		on removes unwante	•	•				
11		s before and after th						
12	Multiple sp	aces within the text	will be trimmed	to a single s	space			
13								
14	Syntax							
15	=TRIM(Te>	(tToTrim)						
16								
17	Formatting							
18	No special	formatting is neede	d.					

TRUNC

	A B	С	D	E	F	G	Н	I	J		
1	TRUNC										
2					_						
			Precision								
3			For	Truncated							
		Number	Truncation	Number							
4		1.47589		1	=TRUNC(
5		1.47589			=TRUNC(
6		1.47589			· · · · · · · · · · · · · · · · · · ·						
7		-1.47589			=TRUNC(
8		-1.47589	2		=TRUNC(
9		13643.476	-1		=TRUNC(
10		13643.476			=TRUNC(
11		13643.476	-3	13000	=TRUNC(C11,D11)					
12					-						
13	What Doe	s It Do ?									
14	This function	on removes	the decimal	part of a nu	ımber, it do	es not actu	ally round tl	he number.			
15											
16	Syntax										
17	=TRUNC(NumberToTi	uncate,Preci	sion)							
18											
19	Formatting										
20	No special	formatting i	s needed.								

TYPE

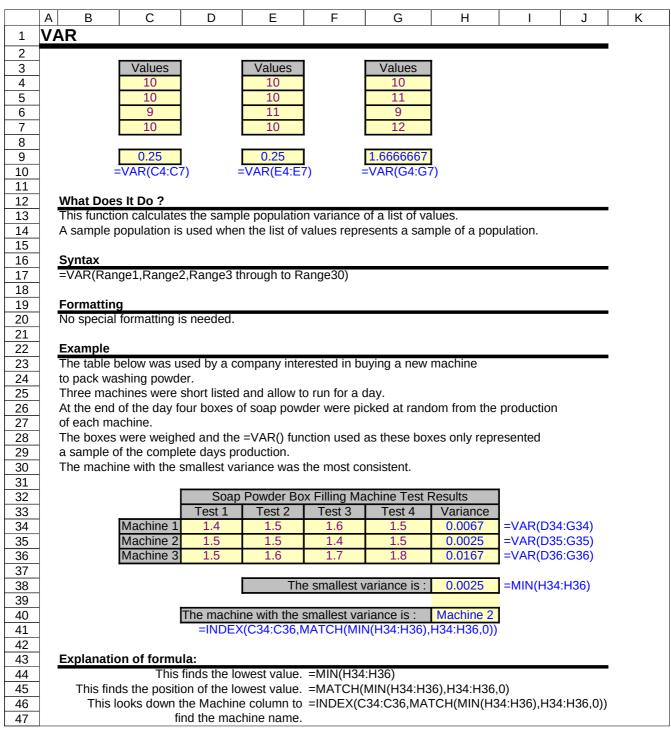
	A	В	С	D	E	F	G	Н	I	J
1	TYPE									
2		DOES NO	T WORK A	S PER HEL	P SYSTEM	Λ				
3										
4				10	1					
5				Hello	2					
6				TRUE	8					
7				8	8					
8				#DIV/0!	16					
9		1	2	3	8					
10		4	-5	6						
11		7	8	9						

UPPER

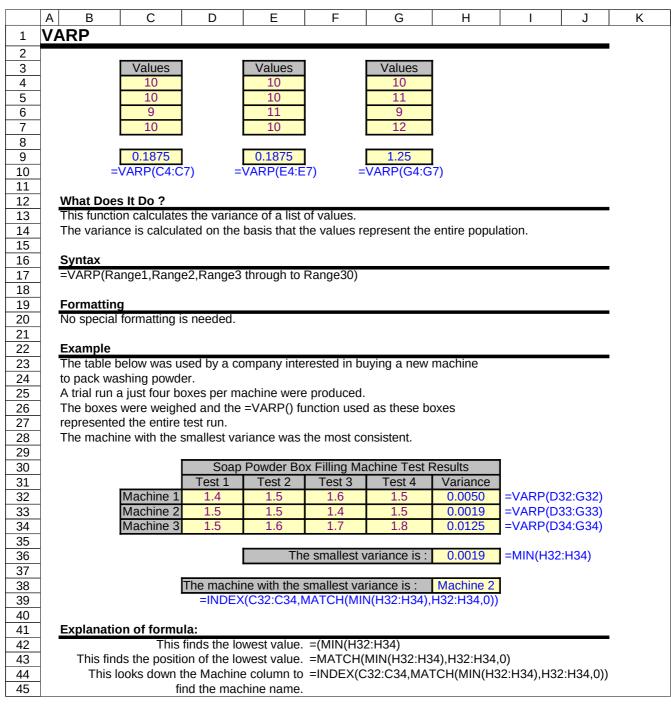
	A B	С	D	E	F	G	Н				
1	UPPER										
2				_							
3		Original Text	Upper Case								
4		alan jones	ALAN JONES	=UPPER(
5		bob smith	BOB SMITH	=UPPER(
6		carOl wiLLiamS	CAROL WILLIAMS	· · · · · · · · · · · · · · · · · · ·							
7		cardiff	CARDIFF	=UPPER(
8		abc123	ABC123	=UPPER(C8)						
9											
10	What Does										
11	This functio	on converts all chara	cters in a piece of tex	t to upper c	ase.						
12	_										
13	Syntax										
14	UPPER(T	extToConvert)									
15											
16	Formatting										
17	No special	formatting is needed									
18											
19	Example										
20	See the exa	ample for FREQUEN	ICY.								

	A B			С			D		E		F		G		Н
1	VAL	ÜΕ													
2								_							
3	-				ng A Nur	nber	Value								
4	-	Annua	ıl turno	ver was	s £5000		Err:50	2	=VALUE	(MIC)(C4,S	EA	RCH("£",	C4),9	99))
5	-	There		20/ :				- 1							
6	-				rease in		#VALUE								
7 8	-				icrease i as achie		#VALUE #VALUE								
9	-				in sales		#VALUE								
10	-				se in sale		#VALUE								
11	-					in sales.			See exp	olana	tion be	eloi	W.		
12	=		E(MID(SUBST	TITUTE(C11," ","	"),SEARC							"))	,4))
13]														
14]					seconds.									',C14),5))
15	-					seconds.									,C15),5))
16	-					seconds.									,C16),5))
17	-	The wi	inning	time wa	as 0:30 s	seconds.	#VALUE	:!	=VALUE	(MIL	O(C17,	SE	ARCH("?	????	,C17),5))
18 19	\ \/ h	at Doe		2											
20					niece of	f text whic	h resemble	20	a numbe	er inte	h an ar	ctu	al value		
20							e of text it v							r	
22							(), =FIND()).
23	-					<i>V</i> , <i>V</i> ,	<i>0,</i> 0	,			,		v	Ū	·
24		ntax													
25	=VA	ALUE(T	extTo	Convert	t)										
26															
27		matting	<u> </u>	*****											
28					needed.		d upon the	ori	iginal tax	/+					
29 30	4					xt it will be	•	011	iyinai tex						
31							sult will be	аc	decimal f	racti	on whi	ch	can then		
32	-	formatte	-							10.01		0.11	our mon		
33						s as a tim	e hh:mm tł	ne	result wi	ll be	a time				
34						ecognised									
35															
36	-														
37						above.									
38	4					0	xt is comp			ar a r	0 140	<u>or</u>	three dia	to lo	20
39 40							length, it d						unee alg	ιS 10	iy.
40	-	-	-	-			of the value				•		d by a sp	ace	
42							n of the val				, p. 000				
43							ngth of thr				e % sid	gn,	errors wi	l occ	ur
44							g, as alpha								
45	4	•		•	em the =	SUBSTIT	UTE() fund	ctio	on was u	sed t	o incre	eas	e the size	e of tl	пе
46		aces in t													
47	Now when the extraction takes place any unnecessary characters will be spaces which are														
48	ignored by the =VALUE() function.														
49	-	Thora	14/00 0	20/ inc	roace in	caloc	#\//\!!!								
50 51	There was a 2% increase in sales.#VALUE!There was a 50% increase in sales.#VALUE!														
51	+					in sales.	#VALUE								
52	-	mere	was a	100701	ncrease	11 30153.	#VALUE								
54	-	=VAL	UE(MI	D(SUB	STITUTI	E(C52." ".'	" "),SEAF	RC	H("???%	S".SI	IBSTIT	רטז	ΓE(C52."		")),4))
				(<u>, , , ,</u>	,, ,,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-	、···/	, 2 0	- • • •		、 - ,	,	111

VAR



VARP



VLOOKUP

173Fur	ntionsofExcel	xls at 04/20.	/2015	VLOOK	UP		Page 187 of 195		
	A B	С	D	E	F	G	Н	I	J
1	VLOOKU	P							
2									
3							The column n	numbers are n	ot needed.
4							they are part	of the illustrati	ion.
5		col 1	col 2	col 3	col 4	col 5	col 6	1	
6 7		Jan Feb	10 80	20 90	30 100	40 110	50 120	-	
8		Mar	97	<u> </u>	45	51	77	1	
9		Indi	51	00	-10	01		1	
10									
11				e a month t		Feb			
12		Whic	n column ne	eds to be p	icked out :	4			
13						100	-		
14 15				In	e result is :		 JP(G11,C6:		
15						-VLOOK	JP(GII,CO.	no,GIZ,FA	LSE)
17	What Doe	s It Do ?							
18		ion scans do	own the row	headings a	t the side c	of a table to	find a spec	ified item.	
19		item is foun					•		
20									
21	Syntax								
22		JP(ItemToFi				From,Sort	edOrUnsorte	ed)	
23 24		oFind is a s eToLookIn i				adinas at t	ha laft hand	l sido	
25		nnToPickFr							
26		d/Unsorted i							or no.
27					J		,	.,	-
28	Formattin								
29	No specia	l formatting	is needed.						
30	E tramula	4							
31 32	Example	is used to fi	nd a value l	nased on a	snecified n	ame and m	onth		
33		OKUP() is ι					onun.		
34		em arises w					n column.		
35		he problem							
36									
37		CH() looks							
38	•	n of the mo							е
39		kup range, t compensate		i() number	S I less tha	an we requ	ire, so and e	extra 1 is	
40 41		ompensale	•						
42	The =VLC	OKUP() nov	v uses this	=MATCH()	number to I	ook across	the column	s and	
43		he correct c		V					
44									
45		OKUP() use		t the end of	the functio	n to indicat	e to Excel th	nat the	
46	row headi	ngs are not	sorted.						
47 48									
48			Jan	Feb	Mar	1			
50		Bob	10	80	97	1			
51		Eric	20	90	69	1			
52		Alan	30	100	45]			
53		Carol	40	110	51				
54		David	50	120	77	l			
55			00000000	o look for	orio	1			
56 57			pe a name t be a month t		eric mar	4			
57		ιyμ	e a monul i	0 100K 10F .	mal	1			
50									

	A B C	D E	F	G	Н	I	J
59		The result is					
60	=V	LOOKUP(F56,C50:F	54,MATCH(F	57,D49:F49	9,0)+1,FAL	.SE)	
61 62	Example 2						
63	This example shows he	w the =VLOOKLIP()	is used to ni	ck the cost	of a snare	nart for	
64	different makes of cars	0	is used to pr		or a spare	partion	
65	The =VLOOKUP() scar		s in column l	F for the spa	are part en	tered in co	lumn C.
66	When the make is foun						
67	result of the =MATCH()	function to find the p	osition of the	e make of c	ar.	-	
68							
69	The functions use the a	•					
70	when the formula is co	pied to more cells, th	e ranges for	=VLOOKUł	P() and $=M$	ATCH() do	
71 72	not change.						
73	Maker Spare	Cost	Lookup Tal	hle			
74	Vauxhall Ignition	£50	Lookup ru	Vauxhall	Ford	VW	
75	VW GearBox	£600	GearBox	500	450	600	
76	Ford Engine	£1,200	Engine	1000	1200	800	
77	VW Steering	£275	Steering	250	350	275	
78	Ford Ignition	£70	Ignition	50	70	45	
79	Ford CYHead	£290	CYHead	300	290	310	_
80 81	VauxhallGearBoxFordEngine	£500 £1,200					
82	Ford Engine	=VLOOKUP(C81,F7	5·179 MATCH		174 0)+1 E4	ALSE)	
83			0.17 0,107 (1 01	(вот,отч.	, , , , , , , , , , , , , , , , , , ,	(LOL)	
84							
85	Example 3						
86	In the following exampl					rs.	
87	The Unit Cost Table ho						
88	The Discount Table ho					product.	
89	The Orders Table is us	ed to enter the order	s and calcula	ate the Tota	l.		
90 91	All the calculations take	e place in the Orders	Table				
92	The name of the Item is	•		Table.			
93							
94	The Unit Cost of the ite						
95	The FALSE option ha				icate that th	he product	
96	names down the side						
97 98	Using the FALSE opt not found, the functio			or an exact	match. If a	a match is	
98	=VLOOKUP(C126,C2		JI.				
100							
101	The discount is then lo	oked up in the Discou	unt Table				
102	If the Quantity Ordered	matches a value at t		e Discount	Table the =	=VLOOKUI	P will
103	look across to find the				_		
104	The TRUE option has			ction to indic	ate that the	e values	
105	down the side of the			moto match	If the Or	iontity Ord	arad dasa
106 107	Using TRUE will allow not match a value at						ereu uoes
107	Trying to match an or						
100	the 100 row is used.				count nom		
110	=VLOOKUP(D126,F1	L14:I116,MATCH(C12	26,G113:I113	3,0)+1,TRU	E)		
111	•						
112					scount Tal		
113	Unit Cos		P		Wood	Glass	71
114	Brick	£2	100		0%		
115 116	Wood Glass	£1 £3	100 300		3% 5%		
110	Glass	LJ		0%0	5%	10%	'

173FuntionsofExcel.xls at 04/20/2015

VLOOKUP

	А	В	С	D	E	F	G	Н	I	J	
118											
119				(
120			Item	Units	Unit Cost	Discount	Total				
121			Brick	100	£2	6%	£188				
122			Wood	200	£1	3%	£194				
123			Glass	150	£3	12%	£396				
124			Brick	225	£2	6%	£423				
125			Wood	50	£1	0%	£50				
126			Glass	500	£3	15%	£1,275				
127								-			
128		Formula fo	r :								
129		Unit Cost =VLOOKUP(C126,C114:D116,2,FALSE)									
130	Discount =VLOOKUP(D126,F114:I116,MATCH(C126,G113:I113,0)+1,TRUE)										
131		Total	=(D126*E2	L26)-(D126 ³	*E126*F126	5)					

	A B	С	D	E	F	G	Н
1	WEEKDAY						
2							
3		Date	Weekday				
4		hu 01-Jan-98	5	=WEEKDAY(C4)			
5		hu 01-Jan-98	5	=WEEKDAY(C5)			
6		hu 01-Jan-98	5	=WEEKDAY(C6,1)			
7		hu 01-Jan-98	4	=WEEKDAY(C7,2)			
8	T	hu 01-Jan-98	3	=WEEKDAY(C8,3)			
9	What Deep It	+ Do2					
10 11	What Does It This function		v of the wook	from a data			
11		shows the day	y of the week	nom a uale.			
13	Syntax						
14	=WEEKDAY	(Date.Type)					
15			icate the wee	k day numbering syst	em.		
16		Sunday as 1 th					
17		vonday as 1 tl					
18	3 : will set N	Monday as 0 tl	hrough to Sur	nday as 6.			
19	If no numbe	er is specified,	Excel will us	e 1.			
20							
21	Formatting						
22	The result will						
23	•		ame of the da	ay, use Format , <mark>Cells</mark>	, Custom a	and set	
24	the Type to d	ldd or dddd.					
25	-						
26	Example	table was us	ad by a batal	which repted a functio	n room		
27 28				which rented a function ding upon which day o		the healing	was for
20		Date is entere		ang upon which day o	n lite week		j was 101.
30	-	ay is calculate					
31				rates using the =LOC)KUP() fun	ction.	
32				200 200 g 010 200			
33	В	Booking Date	Actual Day	Booking Cost			
34	1 -	7-Jan-98	Wednesday	£30.00			
35				=LOOKUP(WEEKDA	Y(C34),C3	9:D45)	
36							
37		Booking					
38	D	Day Of Week	Cost				
39		1	£50				
40		2	£25				
41		3	£25				
42	–	4	£30				
43	_	56	£40 £50				
44 45		6	£50 £100				
45		1	EIOO				

	A B C	D	E	F	G	Н
1	WORKDAY					
2						
3		StartDate	Days	Result		
4		1-Jan-98	28	35836	=WORKDAY(D4,E4)	
5		1-Jan-98	28	10-Feb-98	=WORKDAY(D5,E5)	
6					-	
7	What Does It D	-				
8	4	•		based on a starting	•	
9				eekends and holid	ays and can	
10	therefore be use	ed to calculate delive	very dates or inv	oice dates.		
11						
12	Syntax					
13	=WORKDAY(Si	tartDate,Days,Holi	days)			
14	_					
15	Formatting				•	
16	1	•		ch can be formatte	d to a	
17	normal date by ι	using Format,Cells	,Number,Date.			
18						
19	Example					
20				be used to calcula	ate delivery dates	
21	based upon an i	nitial Order Date a	ind estimated De	livery Days.		
22		Ouden Dete	Dalissama Davia	Dalissama Data	I	
23		Order Date	Delivery Days 2	Delivery Date		
24		Mon 02-Feb-98	2	Wed 04-Feb-98		
25 26		Tue 15-Dec-98	28	Tue 26-Jan-99 =WORKDAY(D25		
26		Holidays			J,EZJ,DZO.DJZ)	
27	Bank Holiday	Fri 01-May-98				
20	Xmas	Fri 25-Dec-98				
30	New Year	Wed 01-Jan-97				
31	New Year	Thu 01-Jan-98				
32	New Year	Fri 01-Jan-99				
_ 02	item i cai	TH OT OUT 00				

	A B	С	D	E	F	G	Н	I	J
1	YEAR								
2		-		_					
3		Date	Year						
4		25-Dec-98	1998	=YEAR(C4)					
5									
6	What Doe								
7	This function	on extracts	the year nu	mber from a da	ate.				
8									
9	Syntax								
10	=YEAR(D	ate)							
11									
12	Formattin								
13	The result	is shown as	a number.						-

	A B	С	D	E	F	G	Н
1	YEARFRA	C					
2							
3		Start Date	End Date	Fraction			
4		1-Jan-98	1-Apr-98	0.25	=YEARFRAC(C4,D4)		
5		1-Jan-98	31-Dec-98	1	=YEARFRAC(C5,D5)		
6		1-Jan-98	1-Apr-98	25%	=YEARFRAC(C6,D6)		
7							
8	What Does						
9			the difference bet	ween two dates	s and expresses the resu	ılt	
10	as a decim	al fraction.					
11	_						
12	Syntax						
13			,EndData,Basis)				
14			endar system to b				
15			SA style 30 days				
16			1 days per month				
17			1 days per month				
18			1 days per month				
19	4	European 29	or 30 or 31 days	aivided by 360			
20 21	Formattin	~					
21	Formatting		as a decimal frac	tion but can be	e formatted as a percent.		
22			as a uecimai nac	alon, but can be	e ionnalleu as a percent.		
23	Example						
25		ng table was i	used by a compar	ny which hired i	people on short term cor	tracts	
26	for a part o		uoou oy u oompu				
27			ch represents the	annual salarv	is entered.		
28			of the contract a				
29					alary for the portion of th	ne year.	
30		0				2	
31	Start	End	Pro Rata Salary	Actual Salary			
32	1-Jan-98	31-Dec-98	£12,000	£12,000	=YEARFRAC(B32,C32	+1,4)*D32	
33	1-Jan-98	31-Mar-98	£12,000	£3,000	=YEARFRAC(B33,C33		
34	1-Jan-98	30-Jun-98	£12,000	£6,000	=YEARFRAC(B34,C34	+1,4)*D34	
35					-		
36	Note						
37	•			•	ate for the fact that the =	YEARFRA	C()
38	function ca	lculates from	the Start date up	to but not inclu	ding, the End date.		

38 function calculates from the Start date up to, but not including, the End date.

- TimeSheet

							· ·					
	А	В	С	D	E	F	G	Н				
1	TIN	IESHEET										
2												
3		Week beginning	Mon 05-Jan-98			Normal Hours	37:30					
4				2								
5		Day	Arrive	Lunch Out	Lunch In	Depart	Total					
6		Mon 05	8:00	13:00	14:00	17:00	8:00					
7		Tue 06	8:45	12:30	13:30	17:00	7:15					
8		Wed 07	9:00	13:00	14:00	18:00	8:00					
9		Thu 08	8:30	13:00	14:00	17:00	7:30					
10		Fri 09	8:00	12:00	13:00	17:00	8:00					
11						Total Hours	38:45					
12												
13						nder worked by	-					
14					(Over worked by	1:15					
15												
16		This is simple ex	ample of a times	heet.								
17												
18		Instructions :										
19		Type the week sta			• •							
20		Use the format do				automatically.						
21		The date is then p	bassed down to the	e Day colum	n.							
22		Turne the emerunt	of hours you are a	vected to v		the Nermel Llevy						
23		Type the amount										
24 25		This is used later				ine required not	115.					
25 26		Type the times yo	u arrive and leave	work in the	annronraite	columne						
20		Use the format of			approprate	columns.						
27		Use the format of										
20 29		Note										
30			ell has been form	atted as [h]·r	nm							
31		The Total Hours cell has been formatted as [h]:mm. This ensures the total hours can be expressed as a value above 24 hours.										
32		If the [h]:mm format had not been used the Total Hours would show as : 14:45										
33		If the [h]:mm form					1.10					
34		on your computer, it can be created using Format, Cells, Number, Custom.										
01			,	senig i onn								

	Α	В	С	D	E	F	G	Н	Ι	
1	Project Dates House Building									
2									•	
3		Target Delivery	Tue 27-Jan-98				Target Budget	£12,000		
4									_	
5		Job Stage	Start Date	Days Required	End Date		Daily Cost	Total		
6		Survey	Mon 05-Jan-98	5	Fri 09-Jan-98		£200	£1,000		
7	-	Foundation	Mon 12-Jan-98	4	Thu 15-Jan-98		£1,000	£4,000		
8		Walls	Fri 16-Jan-98	3	Tue 20-Jan-98		£800	£2,400		
9		Roof	Wed 21-Jan-98	6	Wed 28-Jan-98		£400	£2,400		
10	1	Electrics	Thu 29-Jan-98	4	Tue 03-Feb-98		£300	£1,200		
11										
12		Actual Delivery	Tue 03-Feb-98				Total Cost	£11,000		
13										
14		Against Target	5 days behind				Budget %	92%		
15	_									
16	-	Total Days	22							
17	-									
18 19	-	This is simple ov	ample of using date	oc for project	management					
20	-	This is simple ex	ample of using uat		manayement.					
20	-	Text to be writter	n							
22	-		1.							
23		UNDER CONSTRUCTION !								
24										
25	1									
26	1									
27	1									
28]									
29										
30										
31		=WORKDAY(C								
32		This calculates the	he next working day	у.						