

Excel Quick Reference Guide

Student Manual

www.theTechMentors.com info@theTechMentors.com Revised May 2021

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Introduction

Welcome to the Excel Review and Quick Reference course. This course is NOT an introductory course. Instead, it is a review course. It is for the many users of Excel who are self-taught, and who wonder if there are basic Excel concepts, that they never learned, that could save them hours of work.

What this guide is not

Unlike many books on Excel, this guide does NOT provide detailed explanations. Instead, its purpose is to be a mere Quick Reference guide. This allows readers to quickly review HOW to do something without wading through explanations about the WHAT and the WHY. For example, this guide shows you how to create a PivotTable, but only provides one short sentence about what a PivotTable is and what it can do for you. If you are looking for a more details, please check out TechMentors other courses.

Course Outline

Upon completion of this course, students will be able to:

Navigate and format worksheets

- Use over 60 keyboard shortcuts to navigate and/or manipulate an Excel workbook
- Change the font, alignment, and number format of data using the standard formatting icons
- Insert rows and columns
- Delete rows and columns
- Freeze data rows at the top of the screen
- Freeze data column at the left edge of the screen

Manipulate Excel data

- Use the AutoFill feature to quickly fill in lists of values, month names, names of the days of the week, date values, and number patterns
- Filter data to display a data subset
- Sort data by one or more columns

Prepare data for printing

- Select a specific area for printing
- Fit a printout on one horizontal and/or vertical page
- Add a page header and/or footer
- Print column headers at the top of each page

Design an Excel PivotTable

- Define what a PivotTable is and describe its use
- List the data rules that must be follow before a PivotTable can be created
- Create a PivotTable

Create advanced formulas

- List the four range operators and describe how they can be used in an Excel formula
- Use the five mathematical operators in a numeric formula
- List the five logical operators and describe how they can be used in a comparison formula
- Save time and prevent calculation errors by properly using the proper absolute, mixed, and relative reference operators in a formula
- Increase / decrease the size of the Excel formula bar
- Employ techniques for creating complex mega formulas

Use the following functions

- Summary
 - Sum
 - Average
 - Count
 - Min
 - Max
 - Small
 - Large
 - Median
 - Mode
 - Sumlf
 - Countlf
 - SumIfs
 - Countlfs

IndexMatch

Lookup

VLookup

HLookup

- Logical • If
- And
- Or
- Not

IfError

Keyboard Shortcuts

Selecting

One cell to the right	\rightarrow
One cell to the left	←
One cell down	↓ or Enter
One cell up	↑ or Shift + Enter
One screen down	Page Down
One screen up	Page Up
Beginning of sheet (A1)	Ctrl + Home
End of sheet (last cell)	Ctrl + End
To the end of contiguous data	Ctrl + Arrow or End + Arrow
A cell or range of cells	Ctrl G or F5 then enter address
Next sheet	Ctrl + Page Down
Previous sheet	Ctrl + Page Up
Whole column	Ctrl + Space Bar
Whole row	Shift + Space Bar
One more cell to the right	Shift $+ \rightarrow$
One more cell to the left	Shift + ←
One more cell up	Shift + 1
One more cell down	Shift $+\downarrow$
All the contiguous data to the right	$Ctrl + Shift + \rightarrow$
All the contiguous data to the left	$Ctrl + Shift + \leftarrow$
All the contiguous data up	Ctrl + Shift + ↑
All the contiguous data down	$Ctrl + Shift + \downarrow$
All cells	Ctrl A

File Functions

Formatting

		•	
Open file	Ctrl + O	Format cells	Ctrl + 1
Save file	Ctrl + S	Bold	Ctrl + B
Close window	Ctrl + W	Italic	Ctrl + I
New file	Ctrl + N	Underline	Ctrl + U
Print file	Ctrl + P		

Function Keys

Help	F1
Edit cell formula	F2
Paste Name box	F3
Insert function	Shift + F3
Toggle absolute / relative references	F4
Go to specified cell	F5
Go to next pane	F6
Check spelling	F7
Toggle extended mode	F8
Recalculate	F9
Activate ribbon options with letters	F10
Auto Graph / Chart	F11
Save As	F12

Editing

Cut	Ctrl + X
Сору	Ctrl + C
Paste	Ctrl + V
Undo	Ctrl + Z
Redo	Ctrl Y
Insert cells, rows, or columns	Ctrl + +
Delete cells, rows, or columns	Ctrl + -
Find	Ctrl + F
Search and Replace	Ctrl + H
Erase cell contents	Delete
Finish cell formula and stay in cell	Ctrl + Enter
Cancel edit	Esc
Insert new line in cell	Alt + Enter
Insert current date	Ctrl + ;
Insert current time	Ctrl + :
Toggle display between formulas vs. values	Ctrl + `

Formatting Options



Figure 1: Home tab, Font group

Calibri 🔹	Font	Borders			
20 -	Font Size	÷	Background color		
A	Increase Font	A -	Font color		
A	Decrease Font	G.	More font settings		
В	Bold				
I	Italic				
<u>U</u>	Underline				
==	= * *	≣ •′ V	Vrap Text		
≡≡	≣∮≣	🗄 Merge & Center 🔹			
	Alignr	Alignment 🕞			

Figure 2: Home tab, Alignment group

\equiv	Align Top	87 -	Rotate Text
\equiv	Align Middle	•	Decrease Indent
	Align Bottom	>	Increase Indent
	Align Left		Wrap Text
	Align Center	1	Merge & Center
	Align Right	ارم ا	More alignment settings



Figure 3: Home tab, Number group

Drop down optio	ns
ABC General 123 No specific form	mat 1234.5678
12 Number	1234.57
Currency	\$1,234.57
Accounting	\$ 1,234.57
Short Date	5/18/1903
Long Date	Monday, May 18, 1903
L Time	2:24:00 PM
% Percentage	12.34%
1/2 Fraction	3/5
10 ² Scientific	1.23E+03
ABC Text	1234.5678

Buttons	Buttons					
\$	Currency	\$	1,234.57			
%	Percentage		12%			
,	Comma		1,234.57			
€ .0 .00	Increase decimals					
.00 •.0€	Decrease decimals					
La M	More number format options					

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Insert Rows / Columns

Position the cursor in the desired location and **right click** and choose **Insert...** or press **Ctrl** + **+**. Then choose the desired option from the pop-up menu.

Ж	Cu <u>t</u>						
	<u>С</u> ору	Inse	rt	?	×		
Ĉ	Paste Options:	Inse	rt				
	Paste <u>S</u> pecial	0	 Shift cells right Shift cells down 				
ø	Smart <u>L</u> ookup	O Entire <u>c</u> olumn					
	Insert		OK	6			
	Delete		UK	Ca	ncei		
	Clear Co <u>n</u> tents						

Delete Rows / Columns

Position the cursor in the desired location and **right click** and choose **Delete...** or press **Ctrl** + -. Then choose the desired option from the pop-up menu.

Ж	Cu <u>t</u>	De	lete	7	×		
6	Copy		liete	•	~		
ĥ	Paste Options:	De	lete				
	ê 🔒		Shift cells up				
<u>j</u>	Paste Special	O Entire <u>r</u> ow					
	Smart <u>L</u> ookup	O Entire <u>c</u> olumn					
	Insert		OK	Ca	ncel		
	Delete						
	Clear Contents						

Freeze Panes

From the ribbon's **View** tab you can **Freeze Panes** to "freeze" headings (rows at the top and/or columns at the left) so they don't disappear as you scroll through the spreadsheet.

If you need to freeze both rows and columns, first position the cursor in the cell just below and to the right of the rows and columns you want frozen. For example, if you want to freeze rows 1 through 4 and columns A through C, you would position your cursor in cell D5, and then choose **View, Freeze Panes**.

ы	গ ∙ ∂∙	₽ - 6 8	<i>a</i> ‰ ∓				N	orthwind.xlsx - Excel	
File	Home	Insert Dra	w Page Layout	Formulas D	ata Review	View Developer Add	I-ins TechMe	entors Acrobat	QuickBooks Team Q Te
Norma	al Page Break Preview Workbool	Page Custom Layout Views	☑ Ruler ☑ Form □ Gridlines ☑ Head Show	nula Bar dings Zoom	100% Zoom to Selection Zoom	New Arrange Freeze Window All Panes -	Split CD View Hide CD Syn Jnhide CD Res reze Panes	v Side by Side chronous Scrolling et Window Position	Switch Windows - Macros
D5	Ψ.,	IX ✓	<i>f</i> _x 8/1/1996			Kee the	wysheet scroll	nns visible while the re s (based on current sele	ection).
1	А	В	С	D	E	F Kee	eze Top <u>R</u> ow ep the top row vis	ible while scrolling thro	ough
1	Instru After	ctions: making cha	nges he sure	to save vo	ur work on	the P: drive	eze First <u>Column</u> output the first column	n visible while scrolling	, (
3	and th	nen send an	email to Aco	counting@>	(YZInc.com	so they will know	they can s	end invoices	to the customers.
3	and the order	nen send an Customer	email to Acc	counting@)	(YZInc.com Shipped	so they will know	they can s	end invoices	to the customers.
3	and th Order ID	nen send an Customer ID	Order Date	counting@) Required Date	(YZInc.com Shipped Date	so they will know	they can s Product ID	end invoices Product Nan	to the customers.
3 4 5	and the order ID 10248	Customer ID VINET	Order Date 07/04/96	Required Date 08/N1/96	(YZInc.com Shipped Date 07/16/96	so they will know Shipper Federal Shipping	they can s Product ID 11	end invoices Product Nan Queso Cabra	to the customers. ne
3 4 5 6	and the order ID 10248 10248	nen send an Customer ID VINET VINET	Order Date 07/04/96 07/04/96	Required Date 08/01/96 08/	(YZInc.com Shipped Date 07/16/96 07/16/96	so they will know Shipper Federal Shipping Federal Shipping	Product ID 11 42	end invoices Product Nan Queso Cabra Singaporean	to the customers. ne ales Hokkien Fried Mee
3 4 5 6 7	and the order of t	Customer ID VINET VINET VINET	Order Date 07/04/96 07/04/96	Counting@) Required Date 08/1/96 08/ 08/	XYZInc.com Date 07/16/96 07/16/96	so they will know Shipper Federal Shipping Federal Shipping Federal Shipping	Product ID 11 42 72	end invoices Product Nan Queso Cabra Singaporean Mozzarella di	to the customers. ne ales Hokkien Fried Mee
3 4 5 6 7 8	and the order of t	Customer ID VINET VINET VINET TOMSP	Order Date 07/04/96 07/04/96 07/04/96 07/04/96 07/05/96	Counting@> Required Date 08/11/96 08/16 08/16/96	XYZInc.com Date 07/16/96 07/16/96 07/16/96 07/10/96	so they will know Shipper Federal Shipping Federal Shipping Federal Shipping Speedy Express	they can s Product ID 11 42 72 14	end invoices Product Nan Queso Cabra Singaporean Mozzarella di Tofu	to the customers. ne ales Hokkien Fried Mee Giovanni
3 4 5 6 7 8 9	and the order of t	Customer ID VINET VINET VINET TOMSP TOMSP	Order Date 07/04/96 07/04/96 07/04/96 07/04/96 07/05/96 07/05/96	Counting@> Required Date 08/1/96 08/16 08/16/96 08/16/96	XYZInc.com Date 07/16/96 07/16/96 07/16/96 07/10/96 07/10/96	so they will know Shipper Federal Shipping Federal Shipping Speedy Express Speedy Express	they can s Product ID 11 42 72 14 51	end invoices Product Nan Queso Cabra Singaporean Mozzarella di Tofu Manjimup Dri	to the customers. ne ales Hokkien Fried Mee Giovanni ed Apples
3 4 5 6 7 8 9	and the order of t	Customer ID VINET VINET VINET TOMSP TOMSP HANAR	Order Date 07/04/96 07/04/96 07/04/96 07/04/96 07/05/96 07/05/96 07/08/96	Required Date 08/11/96 08/16/96 08/16/96 08/16/96 08/16/96 08/16/96	XYZInc.com Date 07/16/96 07/16/96 07/16/96 07/10/96 07/10/96 07/12/96	so they will know Shipper Federal Shipping Federal Shipping Federal Shipping Speedy Express Speedy Express United Package	Product ID 11 42 72 14 51 41	end invoices Product Nan Queso Cabra Singaporean Mozzarella di Tofu Manjimup Dri Jack's New F	to the customers. ne ales Hokkien Fried Mee Giovanni ed Apples England Clam Chow

Auto Fill

Enter a name from a series (like the name of a month), or a formula, or one or more values. Then drag or double click the AutoFill button (the cell's bottom right corner) as needed.



Instant Charts

You can quickly create a chart by selecting your data and then pressing F11.

A	В	C	Talas
Area	Country	Sales	JALM .
NA	United States	\$818,669	AUX -
Asia	China	\$377,841	1708 -
Asia	Japan	\$509,495	MOUNT .
Europe	Germany	\$196,820	14.00
Europe	France	\$149,325	200
Europe	United Kingdom	\$174,650	
SA	Brazil	\$210,637	
Europe	Italy	\$174,360	
Asia	India	\$123,434	
NA	Canada	\$145,876	bindelisen 2dar fans dierener Arnes deriertigder fand fan seis Granis au ans ans i-ans i-ans interpi i-ann ai reige ans nu
	A Area NA Asia Europe Europe Europe SA Europe Asia NA	A B Area Country NA United States Asia China Asia Japan Europe Germany Europe France Europe United Kingdom SA Brazil Europe Italy Asia India NA Canada	ABCAreaCountrySalesNAUnited States\$818,669AsiaChina\$377,841AsiaJapan\$509,495EuropeGermany\$196,820EuropeFrance\$149,325EuropeUnited Kingdom\$174,650SABrazil\$210,637EuropeItaly\$174,360AsiaIndia\$123,434NACanada\$145,876

Filter data

From the ribbon choose Data, Filter.



Then click the column heading's drop down to apply the desired filter.

- 4	A	В			C		D		E		F	
1	MovieNumber 💌	Title			Year	٣	Category	- R	Rating	T	Color -]
3	2	\$1,000,000 Duck	₽↓	Sort	A to Z					hs	In Color	
5	4	10 Rillington Place	ZJ	Sort Z to A							In Color	
6	5	100 Rifles		Sort	by Cole	Dr.					In Color	
7	6	11 Harrowhouse	_	5015	by con	-					In Color	
9	8	16 Days of Glory	*	Clea	r Filter	Fron	n "Rating"				In Color	
10	9	1776		Filte	r by Co	lor				F	In Color	
11	10	18 Again!		Text	Filters					۲	In Color	
13	12	1941		Case	ab	_				0	In Color	
18	17	2001: A Space Odyssey		Sear	ch					~	In Color	
19	18	2010	~		(Sele	ct Al	II)				In Color	
21	20	3 Men and a Baby			NC-1	7					In Color	
22	21	3 Men and a Little Lady									In Color	
23	22	3 Ninjas	_		PG						In Color	
24	23	3 Ninjas Kick Back			□ PG-1.	3					In Color	
25	24	3 Women	_								In Color	
27	26	300 Year Weekend, The									In Color	
28	27	40 Carats									In Color	
34	33	80 Steps to Jonah				-		_			In Color	
35	34	84 Charing Cross Road					OK	(Cancel		In Color	
37	36	9 to 5						10		.:	In Color	
40	39			19	974	Crime	F	G		In Color		
62	61	Across the Great Divide			19	977	Western	G	3		In Color	
64	63	Act of the Heart				70	Drama	F	G		In A los	1
	65	Adam						E	20			

Sort data

To sort your data, click on one cell, that has data, in the column you want sorted. Then from the ribbon **Data** tab click one of the three sort buttons.

Da	ta Revie	w View	v Developer	Add-ir	ns TechMe	entors		
ow Queries m Table Sources	Refresh All - Cor	Connecti Propertie Edit Links	ons A↓ ZA2 s z↓ Sort	Filter	Clear Reapply Advanced	L Text Colum		
₽↓	Sort low	est to hi	ghest					
Z↓	Sort higl	nest to la	owest					
ZAZ	Custom 1 MovieNu 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 50	Sort – le A mber T 41 A Sort *A A Column Sort by Title Then by Yeal	ts you do a n itle Nos Amours Delete Level	multi-coli B E <u>C</u> opy Leve Sort On Values Values	umn sort.	Category 1984 Drama ions Order A to Z Smallest to La	Rating R ? My data has <u>h</u> rgest	F Color ▼ In Color × olor

Printing

Select a print area

Select desired range of cells, then from the Page Layout tab choose Set Print Area as shown below.



Fit print to one page wide

From the **Page Layout** tab choose **1 page** for the width as shown below.

File	Home	Insert	Draw	Page Lay	/out	Form	nulas	Data	n Re	eview	View	Develope	r Ac	dd-in	is Te	ecl
Aa	Colors 🕶				FA.					🛶 Widt	n: Au	tomatic 💌	Gridline	s I	Headings	5
	A Fonts -									🗓 🗄 Heigl	nt: Au	utomatic	v	v	🗸 View	
Themes	Effects ▼	Margins	Orientation	Size	Print ∆rea ▼	Breaks	Backgro	und	Print Titles	🖳 Scale	1	page N	1	t	Print	
Th	emes			Page	Setup				Fa	Sc	ale 2 p	pages 6	t	Opt	ions r	5
											31	pages				

Fit print to one page tall

From the **Page Layout** tab choose **1 page** for the height as shown below.

File	Home	Insert	Draw	Page La	ayout	Form	nulas	Data	n Re	eview	Vie	w De	velope	er A	dd-i	ns	Tech
Aa Themes	Colors ▼ A Fonts ▼ Effects ▼	Margins	Orientation	Size	Print Area •	Breaks	Backgrou	und	Print Titles	U 💭 V 🕄 H	Vidth: leight: cale:	Automat Automat Automat	ic • ic •	Gridlin Vie	es ew nt	Headi Vi Pr	ngs ew rint
Th	emes			Pag	e Setup				Fai		Scale	1 page 2 pages 3 pages	\square		t Op	tions	F ₂

Add header / footer

From the Insert tab choose Header & Footer then type your text in the desired location.



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Print rows at top of each page

From the Page Layout tab click Print Titles, then select the rows to repeat at top and click OK.

File Home	Insert	Draw	Page Layou	t Form	ulas Dat	a Rev	view Vi	ew Dev	eloper
Colors * Themes Themes Themes	Margins (Drientation	Size Pri • Are Page Se	nt Breaks a • •	Background	Print Titles	Width:	Automatic Automatic 100% to Fit	* * *
Page Setup Page Margin Print <u>a</u> rea:	s Heade	er/Footer	Sheet		?	×			
Print titles <u>R</u> ows to repeat <u>C</u> olumns to repo Print	at top: eat at left:	1:3				<u>↑</u>			
Gridlines Black and wi Draft guality Row and co	hite umn headi	Co <u>n</u> Cell	<u>n</u> ments: I <u>e</u> rron as:	(None) displayed		~			
Page order	over own		Ent a co rov the	er the f olon, an v # to b top of	irst row d the la e repeat each pa	#, st ed at ge.			
		<u>P</u> rin	t F	rint Previe <u>v</u> OK	v Opt	ions Cancel			

PivotTables

PivotTables allow you to arrange and summarize complex data in an easy to read report that is easy to manipulate. To create a simple PivotTable follow these steps:

- 1. Start Excel and create or open your file.
- 2. Make sure your data can support a PivotTable by using the check list below:
 - □ Each column of data has a column heading
 - □ Each column heading is unique
 - □ Each column heading is in the same row
 - □ The column headings do not span multiple rows
 - \Box No merged cells exist
 - □ All the data is contiguous
 - □ The data in each column follows a consistent format
- 3. Position the cursor in one cell, and only one cell of the data.

- 24	A	В	С	D	E	F
1	MovieNumber	Title	Year	Category	Rating	Color
2	1	\$(Dollars)	1972	Crime	R	TRUE
3	2	\$1,000,000 Duck	1971	Comedy	G	TRUE
4	3	10	1979	Comedy	R	TRUE
5	4	10 Rillington Place	1970	Crime	PG	TRUE
6	5	100 Rifles	1969	Western	PG	TRUE
7	6	11 Harrowhouse	1974	Crime	PG	TRUE
8	7	1492: Conquest of Paradise	1992	Drama	PG-13	TRUE
9	8	16 Days of Glory	1986	Documentary	G	TRUE
10	9	1776	1972	Historical	G	TRUE
11	10	18 Again!	1988	Comedy	PG	TRUE
12	11	1900 —	1977	Drama	NC-17	TRUE

4. From the ribbon choose Insert, PivotTable.



5. In the resulting dialog box make sure the **table/range** is referring to the correct table or range and that the destination is a **New Worksheet**, then click **OK**.

Select a table or range <u>T</u> able/Range: Movies1\$A\$1:\$F\$5407	(#22)
Table/Range: Movies!\$A\$1:\$F\$5407	(BE 272)
	6.28
Use an external data source	
Choose Connection	
Connection name:	
Choose where you want the PivotTable report to be placed	
<u>New Worksheet</u>	
C Existing Worksheet	
Location:	1

6. Drag the fields from the PivotTable Field List to the desired location as shown below.



You now have a PivotTable.

l la seconda de			_	_	_	_						-
	A	В		С	D	E	F	G	Н		PivotTable Field List 🔹 💌	×
1												h
2			_								Choose fields to add to report:	
3	Count of Title	Column Labels	-								MovieNumber	1
4	Row Labels 🔻	G		NC-17	NR	PG	PG-13	R	Grand Total		Title	
5	Action		2			70	21	218	311			
6	Adventure		30			100	11	36	177		rear	
7	Animated		43		1	13	1	6	64		Category	
8	Biography		6			49	17	49	121		Rating	
9	Children's		37			15			52		Color	
10	Comedy		65	3	31	487	206	505	1267			
11	Crime		4	1	1	78	5	252	340			
12	Dance		4			1	4		9			
13	Disaster		3			14		3	20			_
14	Docudrama		1		_	1		_	2		Drag folds between areas below	
15	Documentary		10		2	11		7	30		Drag fields between areas below:	
16	Drama		40	1	76	410	127	650	1240		Y Report Filter Column Labels	
17	Fantasy		16			37	13	11	77		Rating	
18	Historical		4			23	3	18	48			
19	Horror		2	1	1	110	16	317	446			
20	Musical		32			53	8	22	115			
21	Mystery		4			40	4	45	93			
22	Opera		1			1		1	3			
23	Political					5		10	15			
24	Prison		_			3		27	30			-
25	Religious		5			5	2	5	17		Row Labels Σ Values	
26	Romance		2			50	18	43	113		Category Count of Title	
27	Science		22			88	22	69	201			
28	Sports		7			51	9	28	95			
29	Spy		4			39	3	15	61			
30	Thriller					50	10	143	203			
31	War		12			38	5	26	81			
32	Western		25			105	3	42	175			
33	Grand Total		381	12	2 10	1947	508	2548	5406			-
34										▼ ► 10	Defer Layout Update Update	
	• • Sheet1	Movies / 况										_
Rea	dy 🚺											

Range Operators

Cell address with no operator	Refers to cell address	B2	A B C 1
:	Refers to all cells between first and last reference	A1:C3	A B C 1
,	Refers to first and last reference	A1,C3	A B C 1
ļ	Refers to address on the specified sheet	Sheet2!B2	A B C 1
\$	Designates that a column or row reference absolute and therefore should not change when copied.	=\$A\$1 + 1	A B 1 3 4 2 =\$A\$1+1 =\$A\$1+1 3 =\$A\$1+1 =\$A\$1+1

Formula Operators

+	Add	20 + 2 = 22
-	Subtract	20 – 2 = 18
*	Multiply	20 * 2 = 40
/	Divide	20 / 2 = 10
^	Exponent	20 ^ 2 = 400
&	Concatenate	20 & 2 = 202

=	Equals	20 = 10 = False
>	Greater than	20 > 10 = TRUE
>=	Greater than or equal to	20 >= 10 = TRUE
<	Less than	20 < 10 = FALSE
<=	Less than or equal to	20<=10 = FALSE

Absolute, Mixed, and Relative References

When a formula is copied from one cell to another, you have four options for how the formula's cell addresses will be adjusted relative to the new vs. original location. You select the options you want by choosing whether or not to place a \$ in front of the row number and/or column letter.

Abso Use a row n	lute Referer \$ in front o umber	n ce – nothir of both the o	n g changes column lette	er and	Relative Row, Absolute Column Use a \$ in front of the column letter but not the row number					
	А	В	С			А	В	С		
1	10				1	10				
2		=\$A\$1	=\$A\$1		2		=\$A1	=\$A1		
3		=\$A\$1	=\$A\$1		3		=\$A2	=\$A2		
No m numb In this cell in	atter where ber and the s example, w n row 3, the	the destina column lette when B2 is a "1" stays a	ation cell is, er will not c copied dow "1" becaus	the row hange. n to a se the \$	Basec can ch chang In this	l on the des nange but t je. s example, v	tination cell he column l when B2 is c	l, the row nu etter will no copied dowr	umber t n to a	
Wher the co proce	nt of the rov B2 is copie olumn letter eding \$ ma	w letter mai ed across to remains ar kes it absol	a cell in co "A" becau ute.	lumn C, Ise the	When B2 is copied across to a cell in column C, the column letter remains an "A" because the preceding \$ makes it absolute.					
Absolute Row, Relative Column Use a \$ in front of the row number but not the										
Abso Use a colum	lute Row, Ro \$ in front o nn letter.	elative Colu of the row n	ımn umber but r	not the	Relati Do no and d	ve Referenc ot place a \$ o not place	:e in front of t a \$ before	he row num the column	ber letter.	
Abso Use a colum	lute Row, Ro \$ in front on hn letter. A	e lative Colu of the row n B	ı mn umber but r C	not the	Relati Do no and d	ve Referenc ot place a \$ o not place A	e in front of t a \$ before B	he row num the column C	ber letter.	
Abso Use a colum	lute Row, Ro \$ in front of n letter. A 10	elative Colu of the row n B	ımn umber but r C	not the	Relati Do no and d	ve Reference ot place a \$ o not place A 10	e in front of t a \$ before B	he row num the column C	ber letter.	
Abso Use a colum 1	lute Row, Ro \$ in front on letter. A 10	elative Colu of the row n B =A\$1	ımn umber but r C =B\$1	not the	Relati Do no and d 1 2	ve Reference ot place a \$ o not place A 10	e in front of t a \$ before B =A1	he row num the column C =B1	ber letter.	
Abso Use a colum 1 2 3	lute Row, Ro \$ in front on letter. A 10	elative Colu of the row n B =A\$1 =A\$1	ımn umber but r =B\$1 =B\$1	not the	Relati Do no and d 1 2 3	ve Reference ot place a \$ o not place A 10	e in front of t a \$ before B =A1 =A2	he row num the column C =B1 =B2	ber letter.	
Abso Use a colum 1 2 3 Based will no chang	lute Row, Ro \$ in front on hetter. A 10 d on the des ot change b ge.	elative Colu of the row n B =A\$1 =A\$1 stination celout the column	Imn umber but r =B\$1 =B\$1 II, the row n mn letter ca	umber	Relati Do no and d 1 2 3 Basec numb	ve Reference of place a \$ o not place A 10 I on the des er and the o	in front of t a \$ before B =A1 =A2 tination cel column lette	he row num the column C =B1 =B2 I, both the r er can change	ber letter. ow ge.	
Abso Use a colum 1 2 3 Based will ne chang In this cell in \$ in fr	lute Row, Ro \$ in front on the letter. A 10 d on the des ot change b ge. s example, we n row 3, the ront of the r	elative Colu of the row n B =A\$1 =A\$1 stination celout the colu when B2 is of "1" remain row letter m	Imn umber but r C =B\$1 =B\$1 II, the row n mn letter ca copied dow s a "1" beca nakes it abso	umber n to a ause the plute.	Relati Do no and d 1 2 3 Basec numb In this cell in When the co	ve Reference of place a \$ o not place A 10 I on the des er and the des er and the des example, v row 3, the B2 is copie	in front of t a \$ before B =A1 =A2 tination cell column letter when B2 is c "1" become ed across to changes to	he row num the column C =B1 =B2 I, both the r er can chang copied dowr es a "2". a cell in col a "B".	ow ge. n to a umn C,	

Expand the formula bar

When you have a long / complex formula you might want an expanded formula bar so you can see the whole thing. Just click the expand button shown below. After that you can drag the border with the mouse to make it even bigger.



Basic Arithmetic Formulas

Addition	= A1 + B1	= A1 + 3
Subtraction	= A1 – B1	= A1 – 3
Multiply	= A1 * B1	= A1 * 3
Divide	= A1 / B1	= A1 / 3

Basic Functions

Sum	=Sum(A1:A10)	Totals values in A1 through A10.
Average	=Average(A1:A10)	Calculates the average of the values in A1 through A10.
Count	=Count(A1:A10)	Counts the cells with numeric data in A1 through A10.
CountA	=CountA(A1:A10)	Counts the cells with alpha or numeric data in A1 through A10.

Summary Functions

Sum

Description	Add	Adds all the numbers you specify										
Syntax	SUN	SUM(Number1, [Number2])										
Arguments	Nun	nber1	Requ	Required			first number, cel	ll, or range to be added				
	Nun	Optio	onal		The	next number, ce	ll, or range to be added					
	Nun	lumberN Optional				You	can have up 255	number arguments				
		A	В			С						
	1			January								
	2	United Stat	tes	\$ 866,8		6,826						
Evenela	3	China		\$ 583,50		3,501						
Example	4	Japan		\$	\$ 445,8							
	5	Germany		\$	33	8,968						
	6											
	7	Sum		\$	2,23	5 <mark>,10</mark> 3	=SUM(B2:B5)					

Average

Description	Retu	Returns the average value of a group of numbers										
Syntax	Ave	Average(Number1, [Number2])										
Arguments	Nun	nber1	Requ	Required			The first number, cell, or range to be averaged					
	Nun	nber2	Optional			The	next number,	cell, c	or range to be averaged			
	Nun	nberN	Opti	onal		You	can have up 2	55 nu	mber arguments			
		А	А				С					
	1		Janu	ary								
	2	United Stat	tes	\$ 866		5,826						
F armente	3	China		\$ 583		3,501						
Example	4	Japan		\$	44	5,808						
	5	Germany		\$	338	8,968						
	6											
	7	AVERAGE		\$	558	8,776	=AVERAGE(B2	2:B5)				

Count

Description	Соц	unts the num	ber	of ce	ells that h	าล	ve a numeric value	9				
Syntax	Соι	Count(Value1, [Value2])										
Arguments	Valu	ue1	Required		Т	he first number, ce	ell, or range to be counted					
	Valu	ue2	Optional		al	Т	he next number, c	ell, or range to be counted				
	Valu	JeN	Op	otion	al	Y	′ou can have up 25	55 number arguments				
		A		В			С					
	1			Janu	lary							
	2	United States	S	\$	866,820	6						
	3	China		\$	583,50	1						
Example	4	Japan		\$	445,808	B						
	5	Germany		\$	338,968	В						
	6											
	7	COUNT			(D	=COUNT(A2:A5)					
	8	COUNT			4	4	=COUNT(B2:B5)					

CountA

Description	Cou	Counts the number of cells that have a non-blank value										
Syntax	Cou	CountA(Value1, [Value2])										
Arguments	Value1 Required The first number, cell, or range to be counted											
	Valu	ue2	Opti	onal	The	The next number, cell, or range to be counted						
	Valu	JeN	Opti	onal	You	You can have up 255 number arguments						
	1	A		3	С							
	1			January								
	2	United Stat	es	\$ 8	66,826							
	3	China		\$ 5	83,501							
Example	4	Japan		\$ 4	45,808							
	5	Germany		\$ 3	38,968							
	9											
	10	COUNTA			4	=COUNTA(A2:A5)						

Min														
Description	Calc	Calculates the smallest of a group of values												
Syntax	MIN	MIN(Number1, [Number2])												
Arguments	Number1			Required		The first number, cell, or range of cells								
	Nun	nber2		Optional		The next nu	mb	er, cell, or	range of cells					
	NumberN Optional				You can have up 255 number arguments									
		А	В	С		D	Е	F	G					
	1	1		41.00	=SUN	И(A1:A7)		10.00	=MAX(A1:A7)					
	2	2		7.00	=COl	JNT(A1:A7)		8.00	=LARGE(A1:A7,2)					
Evenete	3	5		5.86	=AVE	RAGE(A1:A7)		1.00	=MIN(A1:A7)					
Example	4	7		7.00	=ME	DIAN(A1:A7)		2.00	=SMALL(A1:A7,2)					
	5	8		8.00	=MO	DE(A1:A7)								
	6	8												
	7	10												

Max

Description	Calculates the largest value of a group of values													
Syntax	МАХ	MAX(Number1, [Number2])												
Arguments	Num	ıber1		Requirec	ł	The first nu	The first number, cell, or range of cells							
	Number2			Optional		The next n	umb	er, cell, c	r range of cells					
	Num	nberN		Optional		You can ha	You can have up 255 number arguments							
	A B		В	С		D	Ε	F	G					
	1	1		41.00	=SUM	(A1:A7)		10.00	=MAX(A1:A7)					
	2	2		7.00	=COU	NT(A1:A7)		8.00	=LARGE(A1:A7,2)					
Fuemale	3	5		5.86	=AVEF	RAGE(A1:A7)		1.00	=MIN(A1:A7)					
Example	4	7		7.00	=MED	IAN(A1:A7)		2.00	=SMALL(A1:A7,2)					
	5	8		8.00	=MOE)E(A1:A7)								
	6	8												
	7	10												

Small

Description	Calc	Calculates the Kth smallest value of a group of values												
Syntax	SMA	SMALL(Array, K)												
Arguments	Arra	у		Required		The numbers or cells that have the data								
	К			Required		The position returns the 2	with nd sr	nin the arr nallest val	ay. If K is 2 the fu ue.	unction				
Example		А	В	С		D	Ε	F	G					
	1	1		41.00	=SL	JM(A1:A7)		10.00	=MAX(A1:A7)					
	2	2		7.00	=CC	=COUNT(A1:A7)		8.00	=LARGE(A1:A7,2)					
	3	5		5.86	=A\	/ERAGE(A1:A7)		1.00	=MIN(A1:A7)					
	4	7		7.00	=M	EDIAN(A1:A7)		2.00	=SMALL(A1:A7,2)					
	5	8		8.00	=M	ODE(A1:A7)								
	6	8												
	7	10												

Large

Description	Calculates	Calculates the Kth biggest value of a group of values												
Syntax	LARGE(A	LARGE(Array, K)												
Arguments	Array	Re	quired	The numbers or cells that have the data										
	К	Re	quired	The position with returns the 2 nd b	hin t igge	he array. est value.	If K is 2 the funct	tion						
	A	В	С	D	Ε	F	G							
	1	1	41.00	=SUM(A1:A7)		10.00	=MAX(A1:A7)							
	2	2	7.00	=COUNT(A1:A7)		8.00	=LARGE(A1:A7,2)							
F uence le	3	5	5.86	=AVERAGE(A1:A7)		1.00	=MIN(A1:A7)							
Example	4	7	7.00	=MEDIAN(A1:A7)		2.00	=SMALL(A1:A7,2)							
	5	8	8.00	=MODE(A1:A7)										
	6	8												
	7	10												

Median

Description	Calc	ulates the	nu	mber that	is in the middle o	fas	et of num	bers		
Syntax	MED	DIAN(Num	nber	1, [Numb	er2])					
Arguments	Nun	nber1	Re	equired	The first numbe	The first number, cell, or range of cells				
	Num	nber2	0	ptional	The next numb	er, c	cell, or rar	nge of cells		
	Num	nberN	0	ptional	You can have u	You can have up 255 number arguments				
		А	В	С	D	Ε	F	G		
	1	1		41.00	=SUM(A1:A7)		10.00	=MAX(A1:A7)		
	2	2		7.00	=COUNT(A1:A7)		8.00	=LARGE(A1:A7,2)		
F arana la	3	5		5.86	=AVERAGE(A1:A7)		1.00	=MIN(A1:A7)		
Example	4	7		7.00	=MEDIAN(A1:A7)		2.00	=SMALL(A1:A7,2)		
	5	8		8.00	=MODE(A1:A7)					
	6	8								
	7	10								

Mode

Description	Calc	ulates the	nu	mber that	occurs most frequ	uent	ly in a set	of numbers		
Syntax	MO	DE(Numb	er1,	[Number	2])					
Arguments	Num	ber1	Re	equired	The first numbe	The first number, cell, or range of cells				
	Num	ber2	0	ptional	The next numb	er, c	cell, or rar	nge of cells		
	Num	berN	0	ptional	You can have u	You can have up 255 number arguments				
		А	В	С	D	Е	F	G		
	1	1		41.00	=SUM(A1:A7)		10.00	=MAX(A1:A7)		
	2	2		7.00	=COUNT(A1:A7)		8.00	=LARGE(A1:A7,2)		
F uence le	3	5		5.86	=AVERAGE(A1:A7)		1.00	=MIN(A1:A7)		
Example	4	7		7.00	=MEDIAN(A1:A7)		2.00	=SMALL(A1:A7,2)		
	5	8		8.00	=MODE(A1:A7)					
	6	8								
	7	10								

SumIf

Description	Sums the nu	Sums the number of cells in a range that match a given criteria										
Syntax	SUMIF(Rang	SUMIF(Range, Criteria, [Sum_range])										
Arguments	Range	Requ	uired	The set of cells to test								
	Criteria	Requ	uired	The condition the cells must match in order to be added								
	Sum_range	Opti	onal	The cells that are to be added. If left blank the cells in the range parameter are used.								
Example	A	В	C	D E F G H								
	1 Area Co	ountry	Sales									
	2 NA Ur	nited States	\$818,669									
	3 Asia Ch	nina	\$377,841									
	4 Asia Ja	pan	\$509,495									
	5 Europe Ge	ermany	\$196,820	\$964,545 =SUMIF(A2:A11,"NA",C2:C11)								
	6 Europe Fra	ance	\$149,325									
	7 Europe Ur	nited Kingdom	\$174,650									
	8 SA Br	azil	\$174,650									
	9 Europe Ita	aly	\$174,360									
	10 Asia Inc	dia	\$123,434									
	11 NA Ca	anada	\$145,876									

CountIf

Description	Counts the number of cells in a range that match a given criteria
Syntax	COUNTIF(Range, Criteria)
Arguments	Range Required The set of cells to count
	Criteria Required The condition the cells must match in order to be counted
Example	A B C D E F G H 1 Area Country Sales <td< th=""></td<>

SumIfs

Description	Sums the number of cel	lls in a range th	at match all the given criteria								
Syntax	SUMIFS(Criteria_range1	1, Criteria1, [Cri	teria_range2],[Criteria2])								
Arguments	Sum_range	Required	The cells that are to be added								
	Criteria_range1	Required	The first set of cells to be evaluated								
	Criteria	Required	The criteria the first set must match								
	Criteria_range2	Optional	The second set of cells to be evaluated								
	Criteria2	Optional	The criteria the first set must match								
Notes	The criteria can be litera Literal criteria should be Operators like =, >, < o Use ? and * as wildcards	The criteria can be literal text or cell references. Literal criteria should be placed inside quotes. Operators like =, >, < can be used as part of the criteria Use ? and * as wildcards to represent one or multiple characters.									
Example	AB1AreaCountrySa2NAUnited States\$3AsiaChina\$4AsiaJapan\$5EuropeGermany\$6EuropeFrance\$7EuropeUnited Kingdom\$8SABrazil\$9EuropeItaly\$10AsiaIndia\$11NACanada\$	C D E ales \$818,669 \$377,841 \$509,495 \$196,820 \$149,325 \$174,650 \$174,650 \$174,360 \$123,434 \$145,876	F G H 5 =SUMIFS(C2:C11,A2:A11,"Asia", C2:C11,">200000")								

CountIfs

Description	Counts the number of re	ecords in a rang	ge that match all the given criteria									
Syntax	COUNTIFS(Criteria_rang	ge1, Criteria1, [Criteria_range2],[Criteria2])									
Arguments	Criteria_range1	Required	The first set of cells to be evaluated									
	Criteria	Required	The criteria the first set must match									
	Criteria_range2	Optional	The second set of cells to be evaluated									
	Criteria2	Optional	The criteria the first set must match									
Notes	The criteria can be literal Literal criteria should be Operators like =, >, < ca Use ? and * as wildcards	The criteria can be literal text or cell references. Literal criteria should be placed inside quotes. Operators like =, >, < can be used as part of the criteria Use ? and * as wildcards to represent one or multiple characters.										
Example	AB1AreaCountrySale2NAUnited States\$83AsiaChina\$34AsiaJapan\$55EuropeGermany\$16EuropeFrance\$17EuropeUnited Kingdom\$18SABrazil\$19EuropeItaly\$110AsiaIndia\$111NACanada\$1	C D E les 318,669 377,841 509,495 196,820 3 149,325 174,650 174,650 174,650 174,360 123,434 145,876	F G H ==COUNTIFS(C2:C11,">150000", A2:A11,"Europe")									

Lookup functions

VLookup

Description	Loo the	Looks for a value in the first column of a table and then returns the value from the specified column of that same row										
Syntax	VLC	VLOOKUP(Lookup_value, Table_array, Col_index_num, [Range_lookup])										
Arguments	Loo	kup_value)	Require	ed	The value to find						
	Tab	le_array		Require	ed	The table or range of cells where the value can be found						
	Col	_index_nu	m	Require	ed	The colum which the	The column number in the table from which the value is to be returned					
	Ran	ge_looku	C	Option	al	Leave blank or enter TRUE to find the closest match, enter FALSE to find only an exact match						
Notes	lf th ord	e Range_ er.	lookup is l	blank or T	RUE the	n the data r	must be s	orted in ascending				
Example		A	В	С	D	E	F					
	1	Student	Score	Grade		Score	Grade					
	2	Sally	75%	C		0%	F					
	3	Bob	90%	1		60%	D					
	4	June	84%			70%	С	_				
	5	Cary	79%		J	80%	B	_				
	6					90%	A					
	7			1								
	8		=VLOOKU	P(B2,\$E\$2:	\$F\$6,2,TF	RUE)						

HLookup

Description	Loo spe	Looks for a value in the first row of a table and then returns the value from the specified row of that same column												
Syntax	ΗL	ILOOKUP(Lookup_value, Table_array, Row_index_num, [Range_lookup])												
Arguments	Loo	okup_va	lue		Require	d	The valu	ue to fin	d					
	Table_array				Require	d	The tab value ca	The table or range of cells where the value can be found						
	Row_index_num				Require	Required The row number in the table fro the value is to be returned				om which				
	Ra	Range_lookup			Optiona	Dptional Leave blank or enter TRUE to find closest match, enter FALSE to find an exact match				nd the ind only				
Notes	lf t asc	he Rang :ending	je_looku order.	ıp is b	lank or TF	RUE the	n the dat	a must k	be sorte	d horizo	ntally in			
Example		A	В	С	D	E	F	G	Н	I	J			
	1	Student	Score	Grade		Score	0%	60%	70%	80%	90%			
	2	Sally	75%	C		Grade	F	D	С	В	A			
	3	Bob	90%	T							2			
	4	June	84%											
	5	Cary 79%												
	6	-												
	8		=HLOOKU	۱ P(B2,\$E	\$1:\$J\$2,2,TR	UE)								
				100 TO THE R. T.										

XLookup

Description	Looks for a value corresponding c	e in a colum :olumn	n and then returns the value from the same ro	w of a			
Syntax	XLOOKUP(Look [Mat	up_value, Lo ch_mode], [\$	ookup_array, Return_array, [If_not_found], Search_mode])				
Arguments	Lookup_value	Required	The value to find				
	Lookup_array	Required	The column or range of cells where the value be found	e can			
	Return_array	Required	The column or range of cells where the desirvalue can be found	red			
	lf_not_found	Optional	Value to display if the Lookup_value is not for	ound			
	Match_mode	Optional	0 or blank for exact match -1 for exact match or next smaller item 1 for exact match or next larger item 2 for wildcard character match				
	Search_mode	Optional	1 or blank for search of first-to-last -1 for search of last-to-first 2 for binary search (sorted in ascending orde -2 for binary search (sorted in descending or	er) rder)			
Example	A B	С	D E F	G			
	1 2 3 Title 2001: A 4 Rating PG 5 Meaning Parental 6 7 8 9 10 11 12 13 =XLOOKU	Space Odyssey Guidance	Description General Audience Parental Guidance Parental Guidance Strongly Advised Restricted - no children under 17 without parent's permission No children under 17 allowed Not rated	Rating G PG PG-13 R NC-17 NR			

Logical functions

If

Description	Eva not	luates a another	log val	ical expressi ue is returne	on ed.	n. If the	exp	oressic	on is true one value is return	ed, if	
Syntax	IF(L	.ogical_te	est,	[Value_if_tru	Je], [Value	_if_	_false])			
Arguments	Loc test	gical_ t		Required		The ex	kpre	ession	that is either TRUE or FALS	E	
	Value_if_true			Optional		The value you want expression is TRUE			ant returned if the logical UE		
	Value_if_false Optio			Optional		The va expres	The value you want returned if the logical expression is FALSE				
Example		А		В		С		D	E		
•	1	Area	Со	untry	Sa	ales	Ove	er 200K			
	2	NA	Un	ited States	\$	818,669	Yes		=IF(C2>200000,"Yes","No")		
	3	3 Asia China			\$	377,841	Yes				
	4	4 Asia Japan \$509,495 Yes									
	5	Europe	Ge	rmany	\$	196,820	No				

And

Description	De	termines	if all the argur	ments are T	RUE							
Syntax	AN	D(Logica	al1, [Logical2])									
Arguments	Log	gical1	Required	Express	Expression that results in either TRUE or FALSE							
	gical2	Optional	Express	Expression that results in either TRUE or FALSE								
	Log	gicalN	Optional	Express You can	Expression that results in either TRUE or FALSE You can have up 255 logical expressions.							
	115 \mathbf{v} : $\mathbf{X} \checkmark \mathbf{f}_{\mathbf{X}}$											
		А	В	С	D	E						
					Asia and							
Example	1	Area	Country	Sales	Over 200K							
	2	NA	United States	\$818,669	FALSE	=AND(A2="Asia",C2>200000)						
	3	Asia	China	\$377,841	TRUE							
	4	Asia	Japan	\$ 509,495	TRUE							
	5	Europe	Germany	\$196,820	FALSE							

Or											
Description	Det	termines	if any of the arg	guments a	re TRUE						
Syntax	OR	(Logical	1, [Logical2])								
Arguments	Log	gical1	Required	Expression that results in either TRUE or FALSE							
	Log	gical2	Optional	Expression that results in either TRUE or FALSE							
	Log	gicalN	Optional	Expressi You can	Expression that results in either TRUE or FALSE You can have up 255 logical expressions.						
Example		A	В	С	D	E					
	1	Area	Country	Sales	Asia OR Over 200K						
	2	NA	United States	\$818,669	TRUE	=OR(A2="Asia",C2>200000)					
	3	Asia	China	\$377,841	TRUE						
	4	Asia	Japan	\$ 509,495	TRUE						
	5	Europe	Germany	\$ 196,820	FALSE						
	6	Europe	France	\$149,325	FALSE						
	7	Europe	United Kingdom	\$174,650	FALSE						
	8	SA	Brazil	\$210,637	TRUE						
	9	Europe	Europe Italy		FALSE						
	10	Asia	India	\$123,434	TRUE						
	11	NA	Canada	\$145,876	FALSE						

Not

Description	Changes FALSE to TRUE and TRUE to FALSE									
Syntax	NOT(Logical)									
Arguments	Log	Logical Required Expression that results in either TRUE or FALSE								
Example		A	В	С	D	E				
•	1	Area	Country	Sales	Not Asia					
	2	NA	United States	\$818,669	TRUE	=NOT(A2="Asia")				
	3	Asia	China	\$377,841	FALSE					
	4	Asia	Japan	\$ 509,495	FALSE					
	5	Europe	Germany	\$ 196,820	TRUE					

Advanced functions

Index

Description	Determines the value from a table or range of cells that is at the intersection of the specified row number and column number.									
Syntax	INDEX(Array, Row_num, [Column_num])									
Arguments	Array	Require	ed	The table or range of cells						
	Row_num	Require	Required		Specifies the desired row number, relative to the range of cells.					
	Column_num Optional			I Specifies the desired column number, relative to the range of cells.						
Example	ABC123456789101112131415	D Country United States China Japan Germany France United Kingdom Brazil Italy Italy India Canada	E Sales \$ 818,6 \$ 377,8 \$ 509,4 \$ 196,8 \$ 149,3 \$ 149,3 \$ 174,6 \$ 210,6 \$ 174,5 \$ 123,4 \$ 123,4 \$ 145,8	F 669 641 95 620 625 550 637 660 134 876	G Index of 3rd row China	, 2nd column =INDEX(C4:E14,3	1 3,2)			

Match

Description	Calculates the position of a value in a range of cells									
Syntax	MATCH(Lookup_value, Lookup_array, [match_type])									
Arguments	Lookup_val	le	Required		The value you want to find					
	Lookup_arr	ау	Required		The range of cells that will contain the lookup_value					
	Match_type	Optional		Leave blank or enter 1 to find the closest value without going over. The data must be sorted in ascending order. Enter 0 to find an exact match. Enter -1 to find the closest value without going under. The data must be in descending order.						
Example	A B C 1 2 3		D	E	F G H					
	Δrea	Count	rv	Sales						
	5 NA	United	States	\$ 818.669						
	6 Asia	China		\$ 377,841						
	7 Asia	Japan		\$ 509,495						
	8 Europ	e Germa	iny	\$ 196,820	Match Japan					
	9 Europ	e France)	\$ 149,325	4 =MATCH("Japan",D4:D14,0)					
	10 Europ	e United	l Kingdom	\$ 174,650						
	11 SA	Brazil		\$ 210,637						
	12 Europ	e Italy		\$ 174,360						
	13 Asia	India		\$ 123,434						
	14 NA	Canad	а	\$ 145,876						
	15									

Complex formula using Index and Match

Description	You can use Index and Match to find data in one column based on the location of a value in another column.											
Syntax	INDEX(Array, MATCH(Lookup_value, Lookup_array, [match_type]), Column_num)											
Example												
	4 Area	Area	Country	Sales								
	5 NA United States \$ 818,669 6 Asia China \$ 377,841											
	7	Asia	Japan	\$ 509,495	09,495 Index and Match together 06,820 Find Area for Brazil 49,325 SA 74,650 MATCH("Brazil",D4:D14,0),							
	8	Europe	Germany	\$ 196,820								
	9	Europe	France	\$ 149,325								
	10	Europe	United Kingdom	\$ 174,650								
	11	SA	Brazil	\$ 210,637								
	12	Europe	Italy	row for Brazil								
	13	Asia	India	\$ 123,434	3,434 column 1							
	14	NA	Canada	\$ 145,876								

IfError

Description	If a value results in an error, displays an alternate value instead.								
Syntax	IFERROR(Value, Value_if_error)								
Arguments	ValueRequiredThe value you want to display, unl results in an error.							u want to display, unless it error.	
	Value_if_error Required The alternate value to use instead.							value to use instead.	
Example	A B C D			E			F G H I		HI
	4	Area	Country	Sale	es Last Year	Sal	es this year	% Change	
	5	NA	United States	\$	785,922	\$	818,669	4%	
	6	Asia	China	\$	442,074	\$	377,841	-15%	
	7	Asia	Japan	\$	636,869	\$	509,495	-20%	
	8	Europe	Germany	\$	192,884	\$	196,820	2%	
	9	Europe	France	\$	-	\$	149,325	New	=IFERROR(F9/E9-1,"New")
	10	10 Europe United Kingdom \$ 209,580 \$ 174,650 -17%							