

9 to 5 EXCELLENCE



95 Excel Tips & Tricks

So that **YOU** can rock between 9 to 5

by

Purna Duggirala

<http://chandoo.org/wp/>

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Foreword by Jon Peltier

Chandoo burst into the Excel blogosphere without warning and within the past year has become a force to be reckoned with. Chandoo's Pointy Haired Dilbert blog has grown in popularity, on the strength of his many insightful and helpful hints, tips, and tutorials. Even Microsoft noticed, and they presented Chandoo with the coveted Most Valuable Professional award.

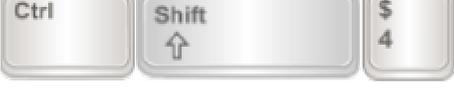
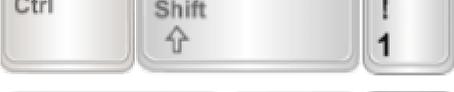
Chandoo is creative (an Excel Twitter client!) and fearless. He is not afraid to present a crazy idea, to see who will take a whack at it. And when his readers respond, good or bad, he good-naturedly accepts their suggestions, and further develops his idea.

While this book is merely the tip of the PHD iceberg, it represents a great compilation of Excel tricks, keyboard shortcuts, formulas, charting, formatting, and even some ways to have fun with Excel, as if Excel wasn't fun enough. Read this book, learn from it, and share it with your friends.

Jon Peltier

<http://peltiertech.com/WordPress/>

Excel Keyboard Shortcuts

1		During formula typing, adjusts the reference type, abs to relative, otherwise repeats last action
2		Inserts current date
3		Copies value from cell above to current cell
4		Edits a cell comment
5		Opens macro dialog box
6		Auto sum selected cells and places value in cell beneath
7		Currency formats current cell
8		Applies outline border to selected cells
9		Comma formats current cell
10		Activates font drop down list
11		Activates font point size drop down list

Day to Day Excel Usage

1. To format a number as SSN, use the custom format code “000-00-0000”...
<http://chandoo.org/wp/2008/06/16/formatting-numbers-in-excel-few-tips/>
2. To format a phone number, use the custom format code “000-000-0000”...
<http://chandoo.org/wp/2008/02/25/custom-cell-formatting-in-excel-few-tips-tricks/>
3. To show values after decimal point only when number is less than one, use [`<1]_($#,##0.00_);_($#,##0_)`] as formatting code...
<http://chandoo.org/wp/2008/10/02/excel-number-formatting-tip-showing-decimals-conditionally/>
4. To hide a worksheet, go to menu > format > sheet > hide...
<http://chandoo.org/wp/2009/01/22/hide-excel-worksheet-tab/>
5. To align multiple objects, like charts, drawings, pictures use drawing toolbar > align and select alignment option... <http://chandoo.org/wp/2008/08/28/aligning-charts-objects-excel-layout-tip/>
6. To disable annoying formula errors, go to menu > tools > options > error checking tab and disable errors you don't want to see...
<http://chandoo.org/wp/2008/10/16/microsoft-excel-15-productivity-tips/>
7. To transpose a range of cells, copy the cells, go to empty area, and press alt+e+s+e...
<http://chandoo.org/wp/2008/07/02/17-excel-paste-special-tricks/>
8. To save data filter settings so that you can reuse them again, use custom views...
<http://chandoo.org/wp/2008/12/17/custom-views-excel/>
9. To select all formulas, press CTRL+G, select “special” and check “formulas”
10. To select all constants, press CTRL+G, select “special” and check “constants”
11. To clear formats from a range, select menu > edit > clear > “formats”
12. To move a chart and align it with cells, hold down ALT key while moving the chart

Excel Charting Tips & Tweaks

1. **To create an instant micro-chart from your normal chart**, use camera tool...
<http://chandoo.org/wp/2008/12/02/excel-camera-tool-help/>
2. **Understand data to ink ratio** (http://www.infovis-wiki.net/index.php/Data-Ink_Ratio) **to reduce chart junk**, using even a pixel more of ink than what is needed can reduce your chart's effectiveness
3. **Combine two different types of charts when one is not enough**, to use, add another series of data to your sheet and then right click on it and change the chart type...
<http://chandoo.org/wp/2009/01/05/excel-combination-charts/>
4. **To reverse the order of items in a bar / column chart**, just click on y-axis, press ctrl+1, and check "categories in reverse order" and "x-axis crosses at maximum category" options
5. **To change the marker symbol or bubble in a chart to your own favorite shape**, just draw any shape in worksheet using drawing toolbar, then copy it by pressing ctrl+c, now go to the chart and select markers (or bubbles) and press ctrl+v
6. **To create partially overlapped column / bar charts** just use overlap and gap settings in the format data series area. A overlap of 100 will completely overlap one series on another, while 0 separates them completely....
<http://chandoo.org/wp/2009/01/21/stacked-bar-charts-excel/>
7. **To increase the contrast of your chart**, just remove grayish background color that excel adds to the chart (in versions excel 2003 and prior)
8. **To save yourself some trouble**, always try to avoid charts like - 3D area charts (unstacked), radar charts, 3D Lines, 3D Columns with multiple series of data, Donut charts with more than 2 series of data... <http://chandoo.org/wp/2008/09/03/6-charts-to-never-use/>
9. **To improve comparison**, replace your radar charts with tables...
<http://chandoo.org/wp/2008/10/07/excel-radar-charts-replacement-spot-matrix-download-template/>

Follow These 6 Steps for Better Chart Formatting



1. Remove any vertical grid-lines
2. Change horizontal grid-line color from black to a very light shade of gray
3. Adjust chart series colors to get better contrast
4. Adjust font scaling (for versions excel 2003 and prior)
5. Add data labels and remove any axis (axis labels) if needed
6. Remove chart background colors

Excel Formulas for Everyday Situations

1. **To get the first name of a person**, use `=left(name, find(" ",name)-1)`
2. **To calculate mortgage payments**, use `=PMT(interest-rate, number-of-payments, how-much-loan)`
3. **To get nth largest number in a range**, use `=large(range, n)`...
<http://chandoo.org/wp/2008/08/13/15-microsoft-excel-formulas/>
4. **To get nth smallest number in a range**, use `=small(range, n)`...
<http://chandoo.org/wp/2008/08/13/15-microsoft-excel-formulas/>
5. **To generate a random phone number**, use `=randbetween(1000000000, 9999999999)`, needs analysis tool pack if you are using excel 2003 or earlier... <http://chandoo.org/wp/2008/11/20/random-phone-number-formula/>
6. **To count number of words in a cell**, use `=len(trim(text))-len(SUBSTITUTE(trim(text)," ",""))`...
<http://chandoo.org/wp/2008/07/08/count-words-excel-formula/>
7. **To count positive values in a range**, use `=countif(range,">0")`...
<http://chandoo.org/wp/2008/11/12/using-countif-sumif-excel-help/>
8. **To calculate weighted average**, use `SUMPRODUCT()` function
9. **To remove unnecessary spaces**, use `=trim(text)`
10. **To format a number as SSN using formulas**, use `=text(ssn-text,"000-00-0000")`... <http://chandoo.org/wp/2008/08/13/15-microsoft-excel-formulas/>
11. **To find age of a person based on DOB**, use `=TEXT((NOW()-birth_date)&"", "yy ""years"" m ""months"" dd ""days""")`, output will be like 27 years 7 months 29 days
12. **To get name from initials from a name**, use `IF()`, `FIND()`, `LEN()` and `SUBSTITUTE()` formulas... <http://chandoo.org/wp/2008/09/02/get-initials-from-name-excel-formula/>
13. **To get proper fraction from a number (for eg 1/3 from 6/18)**, use `=text(fraction, "?/?")`

14. **To get partial matches in vlookup**, use * operator like this:
`=vlookup("abc*",lookup_range,return_column)`
15. **To simulate averageif() in earlier versions of excel**, use `=sumif(range, criteria)/countif(range, criteria)`
16. **To debug your formulas**, select the portions of formula and press F9 to see the result of that portion... <http://chandoo.org/wp/2008/12/15/formula-debugging-tips-excel/>
17. **To get the file extension from a file name**, use `=right(filename, 3)` (doesn't work for files that have weird extensions like .docx, .htaccess etc.)
18. **To quickly insert an in cell micro-chart**, use `REPT()` function...
<http://chandoo.org/wp/2008/05/13/creating-in-cell-bar-charts-histograms-in-excel/>
19. **COUNT() only counts number of cells with numbers in them**, if you want to count number of cells with anything in them, use `COUNTA()`
20. **Using named ranges in formulas saves you a lot of time. To define one**, just select some cells, and go to menu > insert > named ranges > define

Know these 15 Powerful Excel Formulas

Excel formulas can always be very handy, especially when you are stuck with data and need to get something done fast. But how well do you know the spreadsheet formulas?

Discover these 15 extremely powerful excel formulas and save a ton of time next time you open that spreadsheet.

1. Change the case of cell contents - to UPPER, lower, Proper

Boss wants a report of top 100 customers, thankfully you have the data, but the customer names are all in lower cases. Fret not, you can Proper Case cell contents with `proper()` formula.

Example: Use `proper("pointy haired dilbert")` to get **Pointy Haired Dilbert**

Also try `lower()` and `upper()` as well to change excel cell value to lower and UPPER case

2. Clean up textual data with trim, remove trailing spaces

Often when you copy data from other sources, you are bound to get lots of empty spaces next to each cell value. You can clean up cell contents with `trim()` spreadsheet function.

Example: Use `trim(" copied data ")` to get **copied data**

3. Extract characters from left, right or center of a given text

Need the first 5 numbers of that SSN or area code from that phone number? You can command excel to do that with `left()` function.

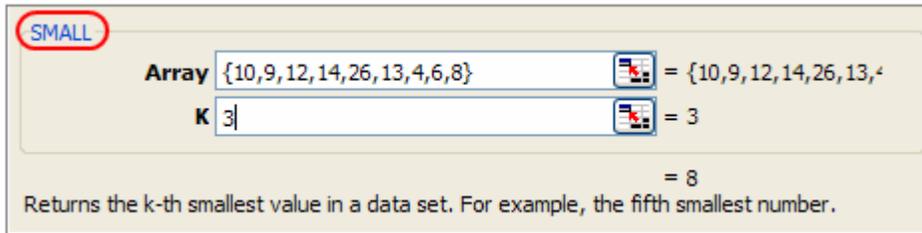
Example: Use `left("Hi Beautiful!", 2)` to get **Hi**

Also try `right(text, no. of chars)` and `mid(text, start, no. of chars)` to get rightmost or middle characters. You can use `right(filename, 3)` to get the extension of a file name

4. Find second, third, fourth element in a list without sorting

We all know that you can use `min()`, `max()` to find the smallest and largest numbers in a list. But what if you needed the second smallest number or 3rd largest number in the list? You are right, there is a spreadsheet function to exactly that.

Example: Use `SMALL({10,9,12,14,26,13,4,6,8},3)` to get **8**



SMALL

Array {10,9,12,14,26,13,4,6,8} = {10,9,12,14,26,13,4,6,8}

K 3 = 3

= 8

Returns the k-th smallest value in a data set. For example, the fifth smallest number.

Also try `large(list, n)` to get the nth largest number in a list.

5. Find out current date, time with a snap

You have a list of customer orders and you want to find out which ones are due for shipping after today. The funny thing is you do this everyday. So instead of entering the date every single day you can use `today()`

Example: Use `today()` to get **08/13/2008** or whatever is today's date

Also try `now()` to get current time in date time format. Remember, you can always format these date and times to see them the way you like (for eg. Aug-13, August 13, 2008 instead of 08/13/2008)

6. Convert those lengthy nested if functions to one simple formula with Choose()

Planning to create a grade book or something using excel, you are bound to write some `if()` functions, but do you know that you can use `choose()` when you have more than 2 outcomes for a given condition? As you all know, `if(condition, fetch this, or this)` returns "fetch this" if the condition is TRUE or "or this" if the condition is FALSE. Learn more about spreadsheet if functions like `countif`, `sumif` etc. <http://chandoo.org/wp/2008/06/09/what-the-if-learn-6-cool-things-you-can-do-with-excel-if-functions/>

Where as `choose(m, value1, value2, value3, value4 ...)` can return any of the value1,2..., based on the parameter m.

Example: Use `CHOOSE(3, "when", "in", "doubt", "just", "choose")` to get **doubt**

Remember, you can always write another formula for each of the n parameters of `choose()` so that based on input condition (in this case 3), another formula is evaluated.

7. Repetitively print a character in a cell n number of times

You have the ZIP codes of all your customers in a list and planning to upload it to an address label generation tool. The sad part is for some reason, excel thinks zip codes are numbers, so it removed all the trailing zeros on the leftside of the zip code, thus making the 01001 as 1001. Worry not, you can use `rept()` the extra needed zeros. You can also custom format cell contents to display zip codes, phone numbers, ssn etc. <http://chandoo.org/wp/2008/02/25/custom-cell-formatting-in-excel-few-tips-tricks/>

Example: Use `zipcode & REPT("0",5-LEN(zipcode))` to convert zipcode 1001 to **01001**

You can use `REPT("|",n)` to generate micro bar charts in your sheet. Learn more about incell charting. <http://chandoo.org/wp/2008/07/15/incell-bar-charts-revisited/>

8. Find out the data type of cell contents

This can be handy when you are working off the data that someone else has created. For example you may want to capitalize if the contents are text, make it 5 characters if its a number and leave it as it is otherwise for certain cell value. `Type()` does just that, it tells what type of data a cell is containing.

If value is	TYPE returns
Number	1
Text	2
Logical value	4
Error value	16
Array	64

Example: Use `TYPE("Chandoo")` to get **2**

See the various type return values in the diagram shown right.

9. Round a number to nearest even, odd number

When you are working with data that has fractions / decimals, often you may need to find the nearest integer, even or odd number to the given decimal number. Thankfully excel has the right function for this.

Example: Use `ODD(63.4)` to get **65**

Also try `even()` to nearest even number and `int()` to round given fraction to integer just below it.

Example: Use `EVEN(62.4)` to get **64**

Use `INT(62.99)` to get **62**

If you need to round off a given fraction to nearest integer you can use `round(62.65,0)` to get **63**.

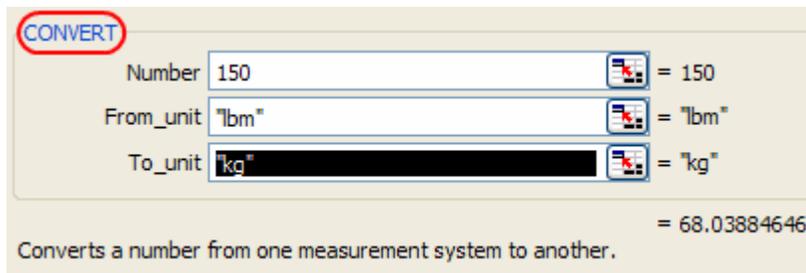
10. Generate random number between any 2 given numbers

When you need a random number between any two numbers, try `randbetween()`, it is very useful in cases where you may need random numbers to simulate some behavior in your spreadsheets.

Example: Use `RANDBETWEEN(10,100)` may return **47** if you keep trying

11. Convert pounds to KGs, meters to yards and tsp to table spoons

You need not ask Google if you need to convert 156 lbs to kilograms or find out how much 12 tea spoons of olive oil actually means. The hidden `convert()` function is really versatile and can convert many things to so many other things, except one currency to another, of course.



CONVERT

Number	150	= 150
From_unit	"lbm"	= "lbm"
To_unit	"kg"	= "kg"

= 68.03884646

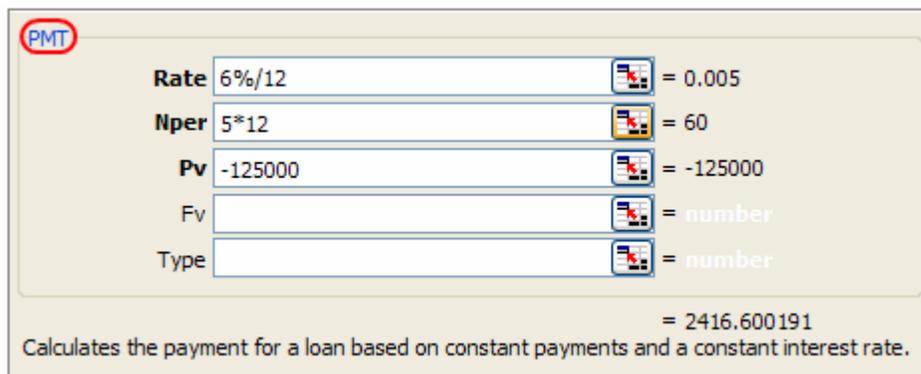
Converts a number from one measurement system to another.

Example: Use `CONVERT(150, "lbm", "kg")` to convert 150 lbs to **68.03** kgs.

Use `CONVERT(12, "tsp", "oz")` to find out that 12 tsp is actually **2** ounces.

12. Instantly calculate loan installments using spreadsheet formula

You have your eyes on that beautiful car or beach property, but before visiting the seller / banker to find out of the monthly payment details, you would like to see how much your monthly / biweekly loan payments would be. Thankfully excel has the right formula to divide an amount to equal payment installments over given time period, the `pmt()` function.



PMT

Rate	6%/12	= 0.005
Nper	5*12	= 60
Pv	-125000	= -125000
Fv		= number
Type		= number

= 2416.600191

Calculates the payment for a loan based on constant payments and a constant interest rate.

*If your loan amount is \$125,000,
APR (interest rate per year) is 6%,
loan tenure is 5 years and
payments are made every month, then,*

Use `PMT (6%/12, 5*12, -125000)` which tells us that monthly payment is **\$ 2,416** if you keep trying

Also, if you want to find out how much of each payment is going for principle and how much for the interest component, try using `ppmt()` and `ipmt()` functions. As you can guess, even though EMIs or loan installments remain constant, the amount contributed to principle and interest vary each month.

13. What is this week's number in the current year?

Often you may need to find out if the current week is 25th week of this year. This is not so difficult to find as it may seem. Again, excel has the right function to do just that.

Example: Use `WEEKNUM(TODAY())` will get **33**

14. Find out what is the date after 30 working days from today?

Finding out a future date after 30 days from today is easy, just change the month. But what if you need to know the date thirty working days from now. Don't use your fingers to do that counting, save them for typing a comment here and use the `workday()` excel function instead.

Example: Use `WORKDAY(TODAY(), 30)` tells that **Sep 24, 2008** is 30 working days away from today.

If you want to find out number of working days between 2 dates you can use `networkdays()` function, find out this and a 14 other fun things you can do with excel. <http://chandoo.org/wp/2008/08/01/15-fun-things-with-excel/>

15. With so many functions, how to handle errors

Once you get to the powerful domain of excel functions to simplify your work, you are bound to have incorrect data, missing cells etc. that can make your formulas go kaput. If only there is a way to find out when a formula throws up error, you can handle it. Well, you know what, there is a way to find out if a cell has an error or a proper value. `iserror()` MS Excel function tells you when a cell has error.

Example: Use `ISERROR(43/0)` returns **TRUE** since 43 divided by zero throws divide by zero error.

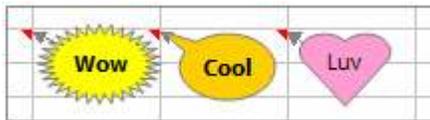
Also try ISNA() to find out if a cell has NA error (Not applicable).

Give these functions a try, simplify your work and enjoy

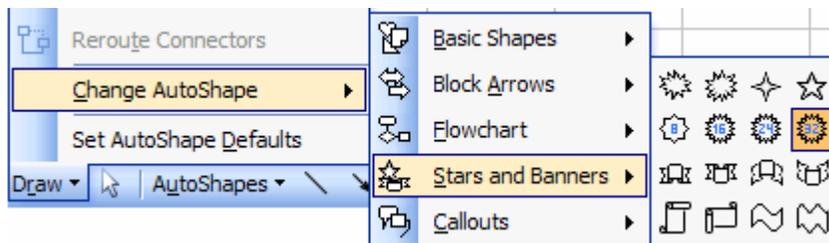
15 Ways to Have Fun with Excel

Who said Excel takes lot of time / steps do something? Here is **a list of 15 incredibly fun things you can do to your spreadsheets** and each takes no more than 5 seconds to do.

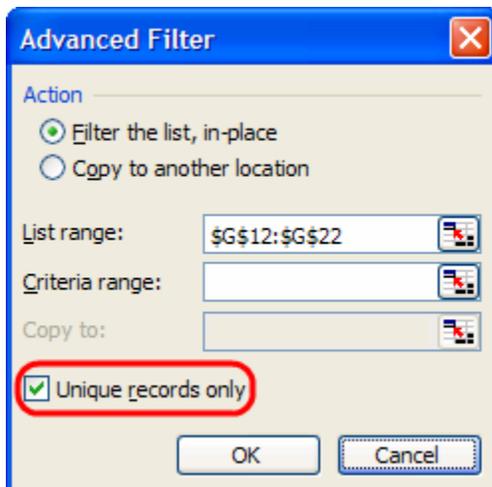
1. Change the shape / color of cell comments



Just select the cell comment, go to draw menu in bottom left corner of the screen, and choose change auto shape option, select a 32 pointed star or heart symbol or a smiley face, just wow everyone

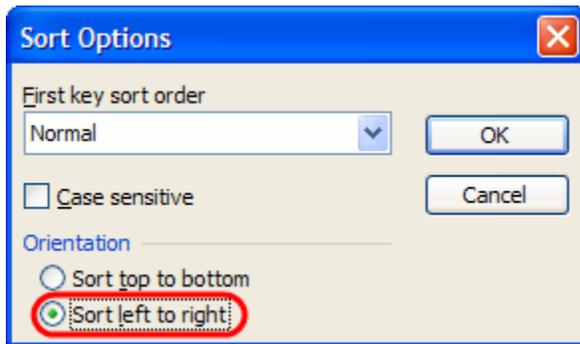


2. Filter unique items from a list



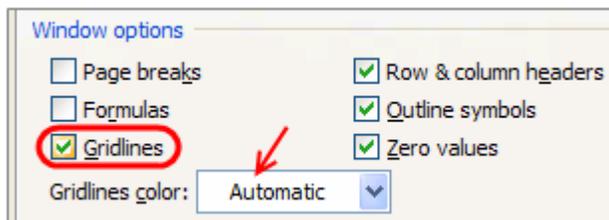
Select the data, go to data > filter > advanced filter and check the “unique items” option.

3. Sort from Left to Right



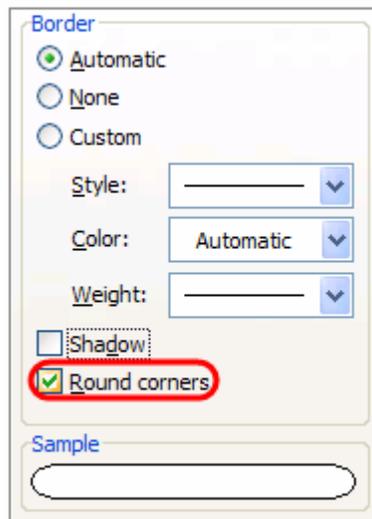
What if your data flows from left to right instead of top to bottom? Just change the sort orientation (<http://chandoo.org/wp/2008/07/22/change-sort-orientation-excel-columns/>) from “sort options” in the data > sort menu.

4. Hide the grid lines from your sheets



Go to Options dialog in tools menu, uncheck the “grid lines” option to remove gridlines from your worksheets. You can also change the color of grid line from here (not recommended)

5. Add rounded border to your charts, make them look smooth



Just right click on the chart, select format chart option, in the dialog, check the “rounded borders”. You can even add a shadow effect from here.

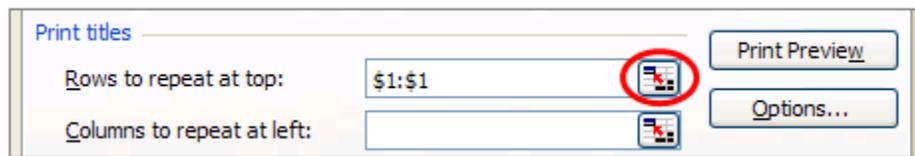
6. Fetch live stock quotes / company research with one click

Microsoft Corp (US:MSFT)	
Last	25.84
Change	-0.39
% Change	-1.49 %
Previous Close	26.23
Day's High	26.28
Day's Low	25.79
Volume	49,293,702
Financial data in USD	
Insert Price	▼

Just enter the stock symbol (MSFT, GOOG, AAPL etc.) in a cell, alt+click on the cell to launch “research pane”, select stock quotes to see MSN Money quotes for the selected symbol. You can fetch company profiles in the same way. Learn more:

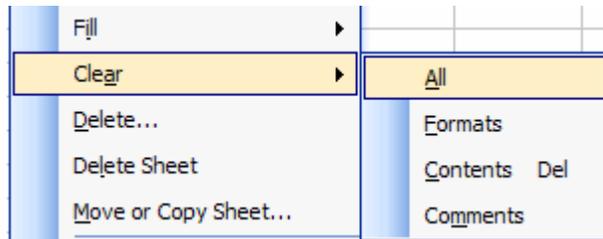
<http://chandoo.org/wp/2008/06/24/get-stock-quotes-in-excel/>

7. Repeat rows on top when printing, show table headers on every page



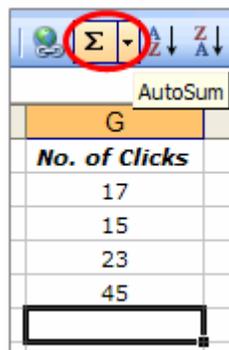
When you are on the sheet view, just hit menu > file > page setup, go to the last tab, specify “rows to repeat”. You can “repeat columns while printing” as well from the same menu.

8. Remove conditional formatting / all formatting with one click



Just go to Menu > Edit > Clear > All to remove all the formatting from selected cell / range.

9. Auto sum cells with one click



Select a bunch of cells and click on the Sigma symbol on the standard tool bar. Alternatively you can use Alt+= keyboard shortcut:

<http://chandoo.org/wp/2008/07/29/excel-keyboard-shortcuts/>

10. Find width of a column with formula, really!

D	E	F
=CELL("width")		
CELL(info_type, [reference])		

Just use `=cell("width")` to find the width of the column to which that formula cell belongs. Width is returned as the nearest integer.

11. Find total working days between any two dates, including holidays

NETWORKDAYS

Start_date "1/1/2008" = "1/1/2008"

End_date "9/1/2008" = "9/1/2008"

Holidays | =

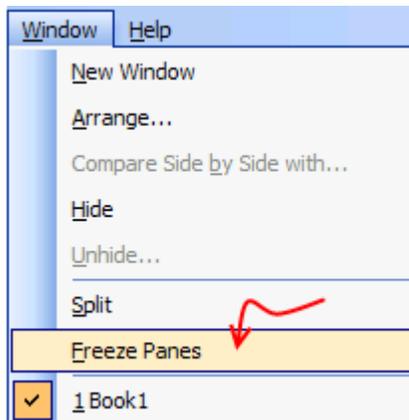
= 175

Returns the number of whole workdays between two dates.

Holidays is an optional set of one or more serial date numbers to exclude from the working calendar, such as state and federal holidays and floating

If you work on project plans, gantt charts alot, this can be totally handy. Just type `=networkdays(start date, end date, list of holidays)` to fetch the number of working days. In the above sample you can see the number of working days between New years day and September first of this year (labor day).

12. Freeze Rows / Columns in your sheet, Show important info even when scrolling



Select the cell diagonally beneath the row / columns you want to freeze (for eg. if you wan to freeze row 1&2 and columns A&B, click in C3), go to menu > window and click on freeze panes.

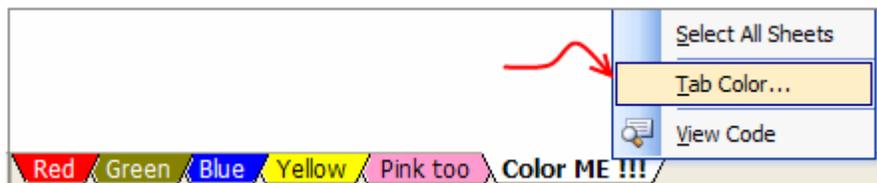
13. Split sheets in to two, compare side by side to be more productive



Just click on this little vertical bar on the bottom right corner of the sheet (see below) and drag it to create a vertical split. You can do the same way for a horizontal split as well

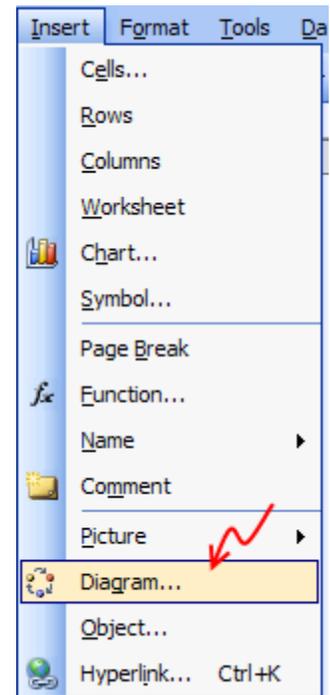
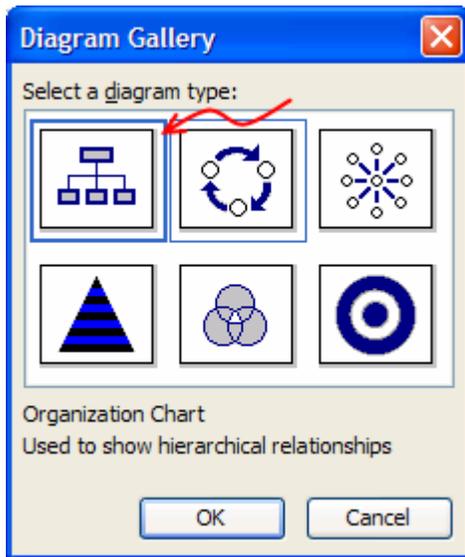


14. Change the color of various sheet name tabs



Right click on sheet and select “Tab color” option to change the worksheet tab colors. Group them with similar colors if you have lot of sheets, it looks nice.

15. Insert a quick organization chart



Click on menu > insert > diagram to open the above dialog, just select the organization chart option, enter node values and you have a pretty organization chart. Alternatively learn how to create org charts in excel <http://chandoo.org/wp/2008/04/15/generate-organization-charts-in-excel-howto/>

Know How to Paste Your Data – 7 Tricks

1. Paste Formats (or Format painter)

Like that sleek table format your colleague has made? But don't have the time to redo it yourself, worry not, you can paste formatting (including any conditional formats) from any copied cells to new cells, just hit ALT+E S T.

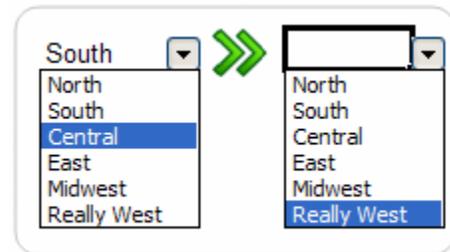


2. Paste Formulas

If you want to copy a bunch of formulas to a new range of cells - this is very useful. Just copy the cells containing the formulas, hit ALT+E S F. You can achieve the same effect by dragging the formula cell to new range if the new range is adjacent.

3. Paste Validations

Love copy those input validations you have created but not the cell contents or anything, just press ALT+E S N. This is very useful when you created a form and would like to replicate some of the cells to another area.

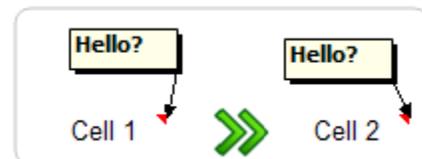


4. Adjust column widths of some cells based on other cells

You have created a table for tracking purchases and your boss liked it. So he wanted you to create another table to track sales and you want to maintain the column widths in the new table. You don't have to move back and forth looking for column widths or anything. Instead just paste column widths from your selection. Use ALT+E S W.

5. Grab comments only and paste them elsewhere

If you want to copy comments alone from certain cells to a new set of cells, just use ALT + E S C. This will reduce the amount of retyping you need to do.



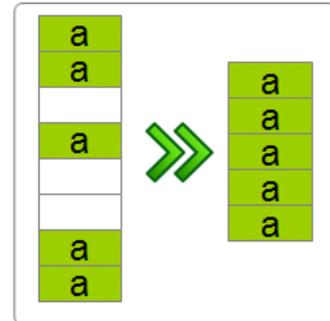
6. Add while pasting

For example, if you have in Row 1 - 1 2 3 as values and in Row 2 - 4 5 6 as values and you would like to add row 1 values to row 2 values to get - 5 7 9, you can do this using paste special. Just copy row 1 values and use ALT + E S D.



7. Skip blank cells while pasting

This is very useful when you are pasting data from that contains lots of blank cells. Instead of using filters or some type of if(s) you can simply use ALT+E S B. This will remove all the blank cells from the copied cells before pasting it. Remember you can combine this option with other types of pastes (For eg. you can skip blanks while pasting values alone or skip blanks while adding the copied cells to paste area.)



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