

## Excel Handout - Second Week (3/9/20)

Total exposure to Excel through this club is about three hours. As I've said many times, classes in Excel, like Word, often last 16 to 24 hours. As a result we have just scratched the surface. We will have covered the ribbons and some of the more prominent features. We have discussed formatting at length and talked a bit about cell manipulation and cross footing a spreadsheet. We will touch on a few more features in this handout. For those experienced Excel users who have a favorite feature that is not covered, I apologize. Here are some additional things that can be done in Excel that are worth a look (and hopefully worth having you practice or play with).

**NOTE** - Microsoft, the author of Office, including Excel, Word, etc. announced that their support of Office 2003 was discontinued at the same point that Windows XP support stopped - April 8th of 2014. Support for Version 2007 ended in October of 2017. This does NOT mean that you have to abandon either. It just means that there will be no more updates published. They claim that this will make you more vulnerable to invaders, viruses, hackers etc. Somehow, I never felt safe because of Microsoft

### Help Information

The information under Help in both Excel and Word is very useful and generally presented in a clear, step-by-step fashion. Under the Help entry in the menu select the first entry (or press the F1 function key). Official help from Microsoft for even version 2007 has been stopped. Type in a key word or question into your favorite search engine and see if you can find your way to the area for which you need help. Don't give up as sometimes it takes several tries to get you to the right spot. YouTube has many, many tutorials on how to do most anything in Excel.

### Formatting Cells

A great deal of the power of Excel is in the presentation of data in the form of tables or lists. Presentation can include formats, alignment, fonts, borders, colors and shading. The actual appearance of data in the cells or an Excel Spreadsheet is the same in literally all versions. The difference is where you find the commands to achieve the desired format.

**2007 and Later** - Much of the formatting of cells is handled in the Home Ribbon under the Numbers section. There are also things that affect cells in the Font Section, the Alignment Section and the Cells Section. As in 2003 there are some pictures for several common applications. If you want to see many more options, simply click (left) on the small arrow in the lower right corner any section where available.

Much time will be spent this week dealing with the number tab and how the different entries affect the presentation of the number that is "really" in the cell. Also we will show you how to use borders, fillers, alignment and font. There is so much material here that I cannot give a list of how to use each.

The meeting tonight will demonstrate many applications of formatting. It is beyond the scope of this handout to completely describe how to achieve many of the extremely high number of different results. Please refer to the many references on the Internet or invoke the help screens right within Excel.

### Actual Cell Contents

In general, a cell will contain text, a number or a formula that does some calculation with numbers (or cell contents) or makes a reference to a different cell. When the cell contains a formula, the result of the calculation is what is showing in the spreadsheet. To actually see the formula, you must highlight the cell and look up in the formula bar. Double clicking the cell will also show the formula.

Since this is a rather confusing concept let me start by talking about numbers. Pure numbers, dollars and percentages are pretty much straight forward. The appearance difference will vary depending on the sign (\$, %, etc) or the number of decimals and commas requested. In the case of date and time of day it is a little different. Dates are stored in what is called a Julian Format. Julian often refers to the day number of the year (Feb 1 would be Julian 32), but in Excel it is the number of days since January 1, 1900 - the date Excel defines as day one. This concept was chosen so calculations could be done with dates. Example: subtracting two dates and making the result a number will result in the number of days between the two dates. You can compute the number of days you've been alive by subtracting your birthday from today's date. Dates entered prior to 1/1/1900 will be regarded as text and no computation is permitted.

When a time of day is entered they are also stored as numbers. Two o'clock in the morning (2 AM) would be .08 (2/24ths of a day). Noon would be a .5 etc. This would permit calculations with times - such as computing the

number of hours worked per day. To get hours worked, subtract the start time (lower number) from the quitting time, multiply by 24 (hours in a day) and display the result as a number (not as a time).

### **Simple Calculations**

If you want to perform a simple arithmetic operation, start the cell contents with an equal sign. Then use the + for plus, - for minus, \* for multiply and / for divide. You can use actual numbers or cell contents in your formula. Example: a cell containing  $=(b3+b4)/2$  would take the contents of cell b3, add it to the contents of cell b4 and divide the result by two. This would, in essence, average the contents of b3 and b4. If the operation is illegal, pound signs will show in the spreadsheet. Please remember there is a hierarchy of arithmetic operations - Multiply and divide are performed before add or subtract. But work inside parentheses is always done first. Without the parentheses, the division would be done first. This formula would divide the contents of b4 by two and add that to contents of b3, which is probably not what you wanted.

### **Adding a Comment to a Cell**

Right click on any cell and choose Insert Comment. This will bring up a box you can use to enter the explanation of what goes into that cell. You might say "Enter Interest Rate as a Decimal" and then hit enter. A small red triangle then appears in the corner of the cell, indicating there is a comment present. This can help other users.

### **Setting a Print Area**

In Word you can select certain pages to print. In Excel, although there ARE pages, sometimes it is useful to choose a certain area to print. This is easily done by highlighting the area you wish to print and then choosing Print Area from the Page Layout Ribbon. Doing a Print Preview will show how it will be displayed. After printing the portion you want, it is usually a good idea to clear the print area so you don't forget that it has been defined. After looking at Print Preview, page definitions will be shown as dotted lines on the worksheet.

### **Cut and Paste Between Excel and Word**

Since Word and Excel are both Microsoft Products it is possible to copy and paste from one to the other. This is especially useful if you are dealing with an Excel sheet that you would like to make into a Word Table (Word tables, you'll remember are good for doing Mail Merge.) To take a group of cells in Excel and make them into a Word table, simply highlight the cells in the spreadsheet with the click and drag action, Right Click and Copy, then open Word and do a Paste. A table will automatically be generated with the appropriate number of rows and columns. Going the other way is equally as easy. In Word, highlight the table, do a copy, then open Excel and do a paste. The cells will be filled in. Realize that formatting in the spreadsheet may not be exactly what you want, but it is easy to work with. The reason you might want one over the other is that Word is good for Mail Merge but poor at number manipulation, while Excel is good at number manipulation. An Excel file can be used as a source for Word's Mail Merge.

### **Freezing the Heading on a Spreadsheet.**

Sometime it is desirable and useful to be able to pan down a list and have the column heading remain visible. (Likewise, you might want to scroll sideways and have the row labels remain in place.) This process is called freezing a pane. It is accomplished by selecting a cell in the first row or column that you **don't** want frozen and then click on the Freeze Pane command in the Windows Section of the View Ribbon. A thin line appears on the spreadsheet in the area frozen. To undo, simply choose the dropdown next to Freeze Pane and select Unfreeze Pane. It doesn't matter where the cursor is when the unfreeze is done.

### **Hiding and Unhiding Rows and Columns**

Sometimes it is a good idea to hide rows or columns for either security or ease of use. An example, there might be a situation where you have a column of budgeted numbers and several columns of expenses for past years. You might not want to show everyone the past years expenses. Whatever the reason, you can hide columns (or rows) from view. To do this, highlight the whole column (or row) to be hidden, click on Format in the Cells Section of the Home Ribbon and then choose the appropriate hide command. You will notice that the letter (in the case of column) will disappear. This is the clue that there is a hidden column. To Unhide the column, highlight the columns or rows that straddle the hidden area and then Click Format and find the corresponding Unhide command. Hiding rows and/or columns are often done in association with Protecting the worksheet - next section.

## **Protecting an Excel Worksheet (or cell).**

Under Format in the Cells Section of the Home Ribbon is the Protection Function. Here you can protect a worksheet from changes. You can use a password to complete this security procedure. This is often coupled with the Hide and Unhide feature to make it impossible for the casual user to view hidden rows and columns. It is also possible to hide a formula from view. Under Format, Cells, click on Protection. Hiding a formula prevents a user from seeing exactly how a calculation was done. . Note: Protection and Unprotection cannot be accomplished with the Undo or Redo buttons.

## **Calculations using Built-in Excel Functions**

There are many functions built in Excel that do everything from Statistical Calculations to Trigonometric Functions. Describing all these is way beyond the scope of this handout. A few that are used a lot will be mentioned. To see a list of the available functions, click on the 'f' with the 'x' subscript in the Formula Ribbon. (This stands for Function of X). A window will open that lists all the available formulas or functions. The "All" lets you see the complete list of functions. Most functions have a key word followed by a list of parameters (called arguments) in parentheses. The result of the function is what is shown in the worksheet cell. Other categories are listed to the right of f(x) such as Math & Trig, Financial, Date & Time and Statistical to name a few.

The SUM function, for example, might look like this: =SUM(A2:A12) where A2 and A12 represent the arguments (yes, that's the real term) and are the range of cells whose values are summed. In other words, this function would return the total of cells A2 through A12 added together. MAX and MIN are two more that are often used. They return the largest and smallest number in a range. SQRT returns the square root of the number in parentheses. Time and date functions are often useful in keeping the printout of a spreadsheet looking current. There are many functions that I have never used. Take some time and play with them and see which ones work for you. Remember you can do arithmetic operations using the +, -, \* and / symbols for add, subtract, multiply and divide respectfully.

## **Graphing a Range of Data**

There is a graphing ability under Charts on the Insert Ribbon. This allows you to plot data on different types of graphs. Graphing is extremely useful for producing easily interpreted visual representations of data. To create a graph, highlight the labels and the numbers and then Insert, Chart. Once the graph is plotted and highlighted, there are three Ribbons of Chart Tools. There are so many choices here, all I can say is experiment with labels and formats. Bar or Column graphs, Line Charts and Pie Graphs are probably the most useful. Practice and see what you can do. You can add titles and legends to the graphs using the entries in the Layout ribbon after the graph is created.

## **Filtering Data using AutoFilter**

Sometimes it is useful to be able to look through a large list and filter it by certain criteria. This is especially important when you have a list with hundreds of entries and scanning them 'manually' would be difficult. To filter a list you must first highlight the entire set of rows and columns you want to filter. Then click on the Data Ribbon and Filter command. This will put a down-arrow by each column that was selected. You can now pick a column, click on the down arrow and select certain criteria. The dropdown will show you every different entry that appears in that column. You can also use logical functions such as equals and greater or less than to look at certain entries the way you want. Once the filtering is done, you can print the filtered list.

Also holding down the Ctrl Key and the letter F brings up the Find Box. A word can be typed in there and Excel will search the sheet for that sequence of letters.

## **Extra References**

There are many reference books available on Excel and Word (and just about any software product). I would avoid the eight-pound tomes that can be absolutely overwhelming. They are complete, but often not for the beginning user. The 'Dummies' books (although the titles sound condescending) are usually very well written and cover subjects from the basic perspective. They are often presented with a fair amount of humor with good tips to get you started. The help menu is an excellent reference, but a book can give you a step-by-step guide to learning. If you do buy a book, you need to treat it like a text book (a little bit every day) and not like a novel. You're never going to read it on a plane or sitting at home with your feet up.

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