# Four Numbers Functions Everyone Should Master

It's become known among my friends that I know quite about Numbers and spreadsheets. And as you can imagine I get asked a lot for help on projects for work, school or church. I'm happy to oblige, but I simply can't help everyone. In fact this was one of the reasons I started this blog back in 2008. I wanted to use it as a resource because at the time very few existed for iWork users. Many times when I'm asked for help with Numbers projects people aren't using any functions! Typically if they are they are just very basic mathematical formulas. I'll tell them what I'd tell anyone the true power of Numbers or any spreadsheet software is in its functions.

But where do you start? Numbers has over 250 functions total while Excel has more but 250 seems rather overwhelming. I decided to put together a list of my favorite and most useful functions and of course walk through how to use them. I use these four so often I believe that everyone should master them. Typically I add two or three of these to every spreadsheet I build. I've also included an additional Bonus function that I use a lot for just one purpose. Let's get started.

# IF

I think that I use the IF function more than any other single function. I continually find new ways to use it. Essentially, it's used to figure out if something is TRUE or FALSE.

=IF('If Expression', 'If True', 'If False')

**Expression:** The expression can be almost anything that we can test whether it is true of false. So, for instance if you have the number 5 in cell A1, you could write an IF function to test whether the value of A1 is 5 and it would look like this:

=IF(A1=5, TRUE, FALSE)
The output of this formula would be the text - TRUE

If we changed A1 to the value 6:

=IF(A1=5, TRUE, FALSE)
The output of this formula would be the text - FALSE

While this is simple you can do so much more with your expressions for instance, let's say we wanted to see if A1 is within a range of numbers:

=IF(AND(A1>4, A5<100), TRUE, FALSE)
The output of this formula would be the text - TRUE

Also you'll notice that we used another function within our IF function. This is the true value of Numbers - taking it beyond a single function and nesting them inside each other. I would, however, discourage nesting multiple IF Statements sometimes it's unavoidable, but typically there are other functions that could help instead.

**If True:** If True is what would be the output in the cell the function resides if the condition is true. All of our examples have been true up to this point. This could be another function or text.

**If False:** If False is what would be the output in the cell the function resides if the condition is false. This could be another function or text.

# IFERROR

The IFERROR function to me is a great catch-all. It takes results that are errors and gives the opportunity for an output other than the dreaded red exclamation point triangle icon.

=IFERROR('If Error Expression', 'If Error')

**If Error Expression:** Again an expression is simply something we can test whether or not it is true. Let's assume that the value of cell A1 is the number 0. If we had a function that needed to divide by the value of cell A1 it would cause an error. For instance:

=5 / A1

This would result in an error. Instead if we wrap the express inside the IFERROR function we display a more readable human output:

=IFERROR(5 / A1, "Error: cannot Divide by 0")

Its as simple as that.

**If error:** The second condition in this function is the 'if error' output. This can be most anything. It could be a string of text, another function or many times I simply just input a space - " ".

In my opinion if you are writing your spreadsheet for others this is an important function to add to your formulas as it makes your spreadsheet easier to use.

# COUNT

The COUNT function is a simple function but is essential to many various types of spreadsheets. This function represents a family of functions: COUNTA, COUNTIF, COUNTIFS, and COUNTBLANKS.

We will focus on the COUNT Function here but with this knowledge it should make it a little easier figure out the rest of these.

=COUNT(value, value…)

Basic you can place as many cells or ranges of cells into the count function as

| 200 | 300 | 400 | 500 |
|------|--------|----------|------|
| TRUE | FALSE | Hello | |
| 4 | 6 | 16 | |
| Active | France | Good-bye | |

you would like and it will count ONLY the cells with numerical values. So let's say you have a table that looks something like the following:

Here some examples of how the Count function would interact with this table:

=COUNT(A1:D1)
This formula would output the number 4.

=COUNT(A1:D4)
This formula would output the number 7

=COUNT(A4:D4)
This formula would output the number 0

I think you've got the gist of it. The COUNTA function counts cells with both numerical and alphabetical characters present so still using the table about the following formulas would output as follows:

=COUNTA(A1:D1)
This formula would output the number 4.

=COUNTA(A1:D4)
This formula would output the number 13

=COUNT(A4:D4)
This formula would output the number 3

As you could probably figure out the COUNTBLANKS function counts the blanks or empty cells. This is pretty straight forward, but I'll still include our samples from above:

=COUNTBLANKS(A1:D1)
This formula would output the number 0.

=COUNTBLANKS(A1:D4)
This formula would output the number 3

=COUNTBLANKS(A4:D4)
This formula would output the number 1

I think you could see how valuable the COUNT family of functions can be. We will save COUNTIF and COUNTIFS for another time as they are just a little more complicated.

# ROUND

You would think that the function ROUND is pretty simple, but it's actually rather substantial. Now Numbers will do this for you in the cell formatting window, but I find that I have more control if I do it within a formula.

=ROUND(Number-to-round, digits)

**Number-to-round:** This is simply the number you would like to rounded to a more readable number.

=ROUND(1.25, 0)
The output of this formula would be the number 1

**Digits:** this portion of the function tells the function how many decimal places you would like to round to. Here are a few examples:

=ROUND(1.25, 1)
The output of this formula would be the number 1.3

=ROUND(1.2534768, 4)
The output of this formula would be the number 1.2535

=ROUND(1745.2534768, -3)
The output of this formula would be the number 2000

I think this is one of the most underutilized functions in all of Numbers. If we want our final output numbers to be actionable developing consistency in the appropriate contexts through the ROUND function is important.

BONUS!!

# LEN

I included the LEN function for a little Numbers fun. You see LEN is a particularly simple function that I have found exactly one use for. But as a marketer is has been tremendously important. LEN simply counts the characters (numbers, letters, special characters, and spaces)  in a source string.

=LEN(source-string)

**Source-string:** This can be anything typically though it's referencing a cell. To illustrate this let's say that cell A1 contains the phone number - 867-5309.

=LEN(A1)
The output of this formula would be the number 8

This is such a simple function, but it can have many uses. The one I use it for is measuring the length of potential tweets. A tweet can only be 140 characters so I setup a spreadsheet where I can add potential tweets and then counts the number of characters quickly.

There you have it the Four Numbers Functions that I believe every user should master in order to become more efficient Numbers user. Try some of them in your next project! And if you've learned anything from this document please share this link so others can learn them too!