

# Advanced Excel

**Quick Access:** Shortcuts to commonly used functions. You can edit the list to include the functions you use most.

**Ribbon:** This bar holds all the available tools used for working in Excel. It is broken into tabs organized with similar tools in each tab.

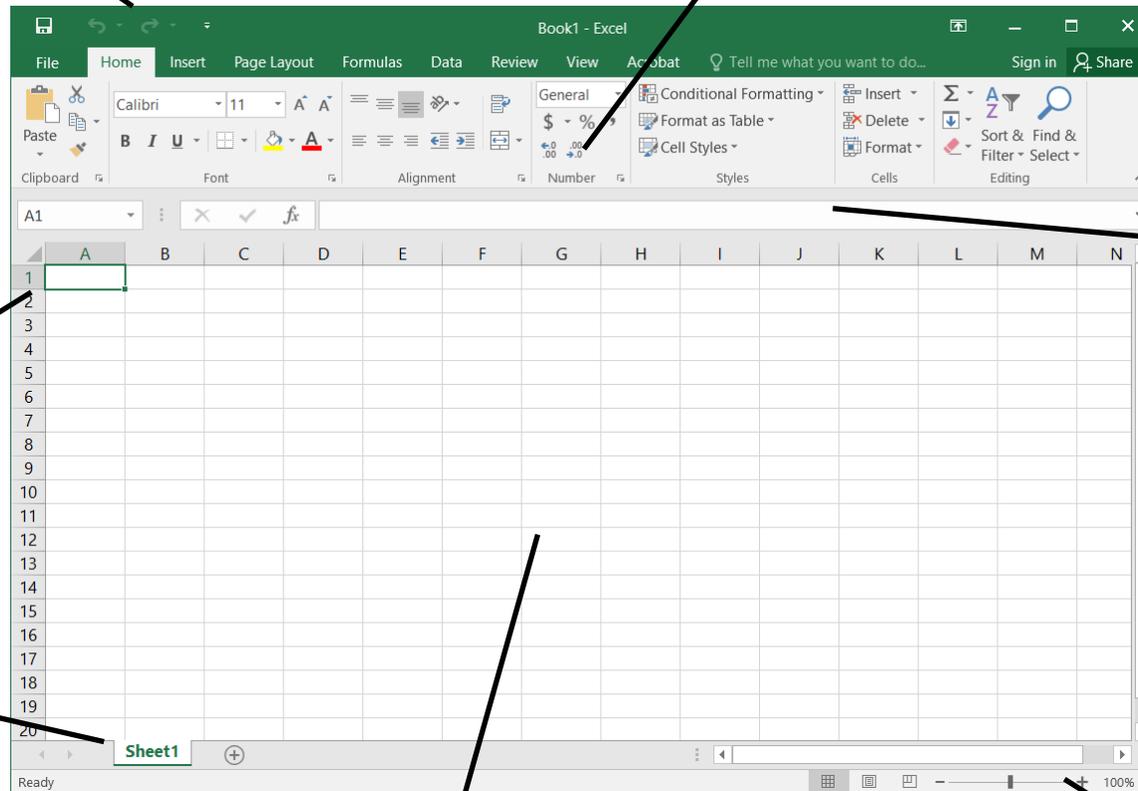
**Active Cell:** The cell you are currently working with. Highlighted by a green border.

**Formula Bar:** Displays the text of the active cell as it exists and not as viewed. You can type here to enter text into a cell.

**Sheets:** Your workbook can have multiple sheets. This can help you keep related information organized but in one common location. Clicking on a different sheet name will select a different sheet.

**Worksheet:** The active sheet you are working with. Organized into columns (A, B, C...) and rows (1, 2, 3...).

**View Controls:** Zoom controls to change sizing of the program. You also have additional ways to view the worksheet such as Normal, Page Layout, and Page Break Preview.

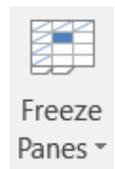


## Cell References

When referencing another cell in your spreadsheet, you need to reference it by the cell address. But there are multiple ways to reference this cell, and some of it will depend on where in your spreadsheet that cell is located. These are the most common references you'll use, though there are others for very specific situations.

| Reference             | What it is used for  |
|-----------------------|--|
| A1                    | Used to refer to cell A1   |
| \$A\$1                | Used to always refer to A1 regardless of where the formula moves to. Used less frequently but is important to know for when it is needed.  |
| Sheet1! or 'Sheet 1!' | Refers to a specific sheet in your spreadsheet. Can be used with formulas across sheets. If the sheet title has a space in it, you must put ' ' around the name of the sheet. Be sure to include the ! at the end of the sheet name before continuing with the cell address. |

## Freeze Panes



One helpful way to keep track of your information within your spreadsheet as it grows in size is to freeze panes. Doing this will allow you to freeze a certain set of cells, usually done with either rows or columns, so that they are always found on your screen. If you have a long spreadsheet with a header at the top and are losing track of what each cell is as you scroll down, you can freeze the top row so that it always shows. In the example here you can see that the top row (1) has been frozen in place, so as I scroll down I can still see what it says, even though I'm further down in my spreadsheet.

|    |       |
|----|-------|
| 1  | Spent |
| 8  | 16    |
| 9  | 53    |
| 10 | 247   |
| 11 | 23    |
| 12 | 65    |

## Error Messages

Sometimes when writing out your formulas, you may get an error message back. These all come from an error while entering the text itself. Double clicking on the cell will give you the chance to fix your mistakes, but the error message will tell you what you need to fix. Here are some of the more common error messages.

- #NAME? - There is text within a formula Excel doesn't recognize.
- #NULL! - There is a missing comma within your formula.
- #NUM! - There is invalid numeric data within the formula.
- #REF! - There's an invalid reference, often because a referenced cell was deleted.
- #VALUE! - The formula has the wrong operand or function.

# Pivot Tables



PivotTable

Pivot tables can give you a great way to quickly summarize your worksheet in new ways. To add a pivot table, select the **Insert** tab and choose the **Pivot Table** option. This allows you to select a range of cells, as well as where you want to place the pivot table. The key to remember is your range needs to have a title for each column to make it easier to see what you're working with. Once you've placed your pivot table, you'll get a pane on the right side of the screen that allows you to edit the table. Select the check boxes for what you want to view and sort. You can move these around between rows, columns, values, and filters to suit your needs. Pivot tables can be powerful tools, but a lot of that comes from spending time and tinkering with them. They can do a lot of things in a variety of ways that make it hard to summarize.

| Categories           | Sum of Spent    |
|----------------------|-----------------|
| <b>Clothing</b>      | <b>-\$39.00</b> |
| Target               | -\$39.00        |
| <b>Entertainment</b> | <b>-\$42.00</b> |
| Strand               | -\$42.00        |
| <b>Gas</b>           | <b>-\$23.00</b> |
| Speedway             | -\$23.00        |
| <b>Groceries</b>     | <b>-\$55.00</b> |
| Kroger               | -\$20.00        |
| Meijer               | -\$35.00        |
| <b>Paycheck</b>      | <b>\$500.00</b> |
| Work                 | \$500.00        |
| <b>Grand Total</b>   | <b>\$341.00</b> |

|   | F     |
|---|-------|
| 1 | Spent |
| 2 | 55    |
| 3 | 39    |
| 4 | 42    |
| 5 | 100   |
| 6 | 23    |

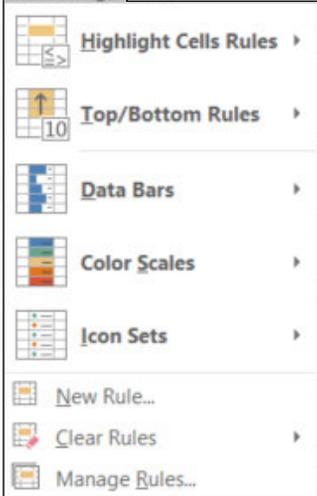
## Named Ranges

If you find yourself referencing the same section of your worksheet repeatedly, it can be beneficial to name the range instead of typing it in each time. To do this, highlight the range you want to name, and then give it a name in the box to the left of the address bar. For example, when you go to reference the range of cells shown to the left, instead of typing F2:F6, you could type Spent into a formula.

## Conditional Formatting



Conditional Formatting



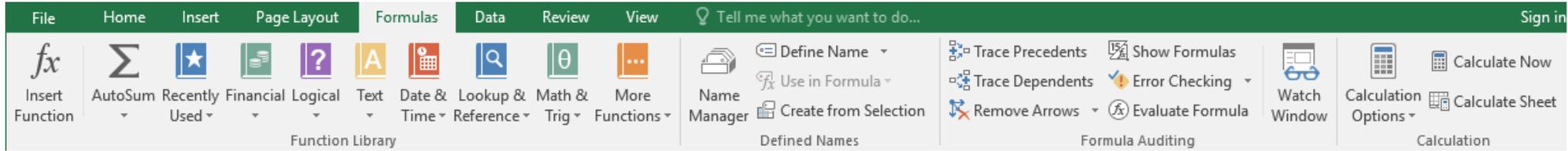
This feature of Excel allows you to highlight cells with different colors based on whether or not the cell meets certain conditions. For instance you can have your cells turn red if they drop below a certain value, or add arrows next to values to indicate positive or negative values.

|     |     |     |
|-----|-----|-----|
| 55  | 100 | 45  |
| 39  | 50  | 11  |
| 42  | 25  | -17 |
| 100 | 150 | 50  |
| 23  | 75  | 52  |

To do this, select a cell or range you want to format and select **Conditional Formatting** from the **Home** tab. There are several options to choose from such as highlighting cells, adding icons, and visualization with color. But if none of those match what you're looking for, you can select "New Rule" and you can format cells with more fine tune control. You can even write a formula to achieve what you're looking to do.

# Formulas

In the first class we learned some basic formulas. Here are some more advanced formulas to help you organize your data. Below if you see something in [ ] then that means you can put a variety of information. If it's not a cell address, be sure to put "" around your value.



**IF:** This formula performs a true/false test. It first looks at what you've put in your test, then if it's true provides whatever the value in the true section is. If it's false, then it does the second value. You can use a blank result if you put nothing within "". This formula looks like =IF(logical test, [value if true], [value if false]).

**COUNT:** Counts the number of times a number or date are found within the range. It looks like =COUNT(range).

**COUNTA:** Similar to COUNT, but it counts any cell that has anything in it, including text. The formula is used as =COUNTA(range).

**COUNTIF:** This version of COUNT will look through the range and only include it in the count if it matches a criteria. This formula is written as =COUNTIF(range, [criteria]).

**SUMIF:** This formula will add together all the items within a range that match a specific identified criteria such as date, location, or any other criteria you determine. The formula looks like =SUMIF(range, [criteria], sum range).

**NOW** and **TODAY:** These formulas each return either the date and time or just the date. You can use them for printing accurate times within your spreadsheet. They look like =NOW() and =TODAY().

**RAND** and **RANDBETWEEN:** These two will produce a random number in a cell. RAND produces decimal numbers smaller than 1. RANDBETWEEN allows you to assign a range of numbers to consider from when using the function. These formulas look like =RAND() and =RANDBETWEEN(low number, high number).

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These are a small sampling of some useful logical formulas to use, especially when working with financial spreadsheets. For additional help on formulas, you can use a website like [support.office.com](http://support.office.com) or [exceljet.net](http://exceljet.net). These website have a helpful page for each formula and how you use it. Feel free to also search online for "Excel 'what you're trying to do'" in order to find a formula for your needs if you don't know which one to use.