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## Microsoft Excel 1

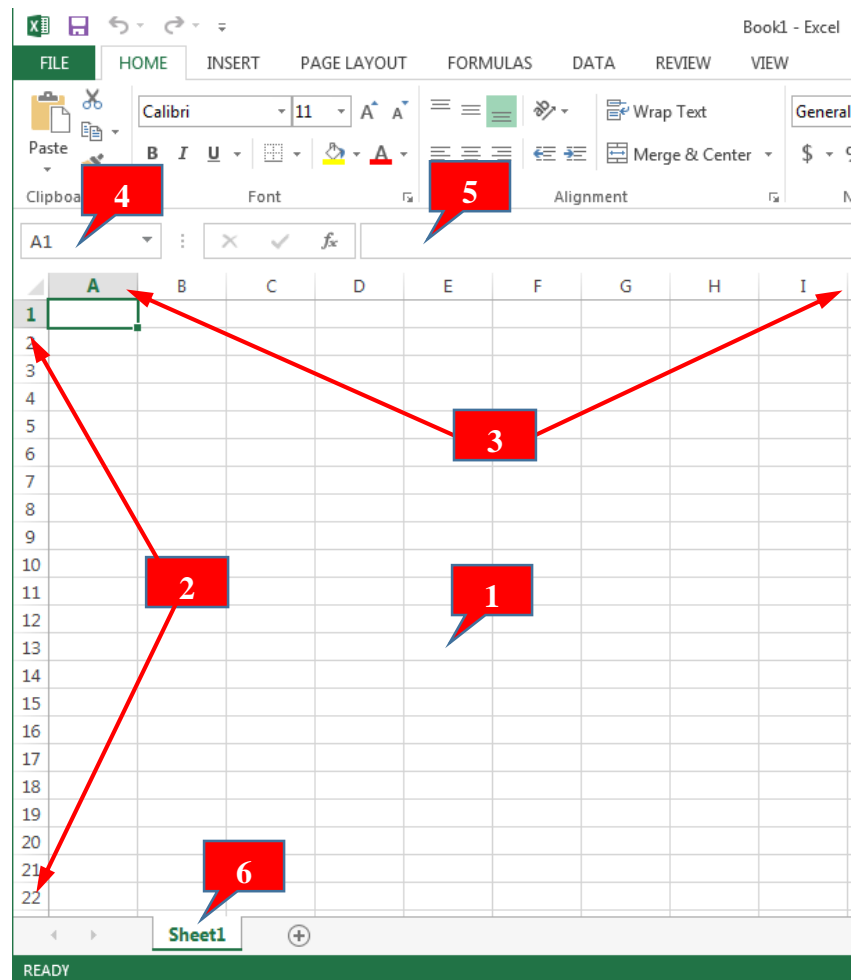
### Basic-Level Features of Excel 2013

### WHAT IS EXCEL

Microsoft Excel is a spreadsheet program designed to allow you to enter numerical values or data into a worksheet. These numerical entries can be used for calculations, graphs, and statistical analysis. Many people use Excel for various purposes including making grocery lists, keeping records of bills to pay, and creating expense reports for car repairs.

### LAYOUT

- Cells:** Rectangles where information is entered. The active cell is the one that has a green or black box.
- Rows:** The horizontal arrangement of the cells. Labeled with numbers,
- Columns:** The vertical arrangement of the cells. Labeled with letters.
- Cell Reference:** The address of a specific cell, made from the column and row identifiers. Cell references are located in the upper left hand corner of the worksheet.



- Formula Bar:** A display of the contents of a cell.
- Worksheet:** The bulk of the screen consisting of a table of rows and columns that one enters data in. At the bottom of the worksheet you will see 1 Worksheet Tab. All new worksheets have only one tab (Sheet1). Click on the circle with a plus sign next to the Sheet1 tab to add another worksheet. Double click a worksheet tab to delete it or rename it.

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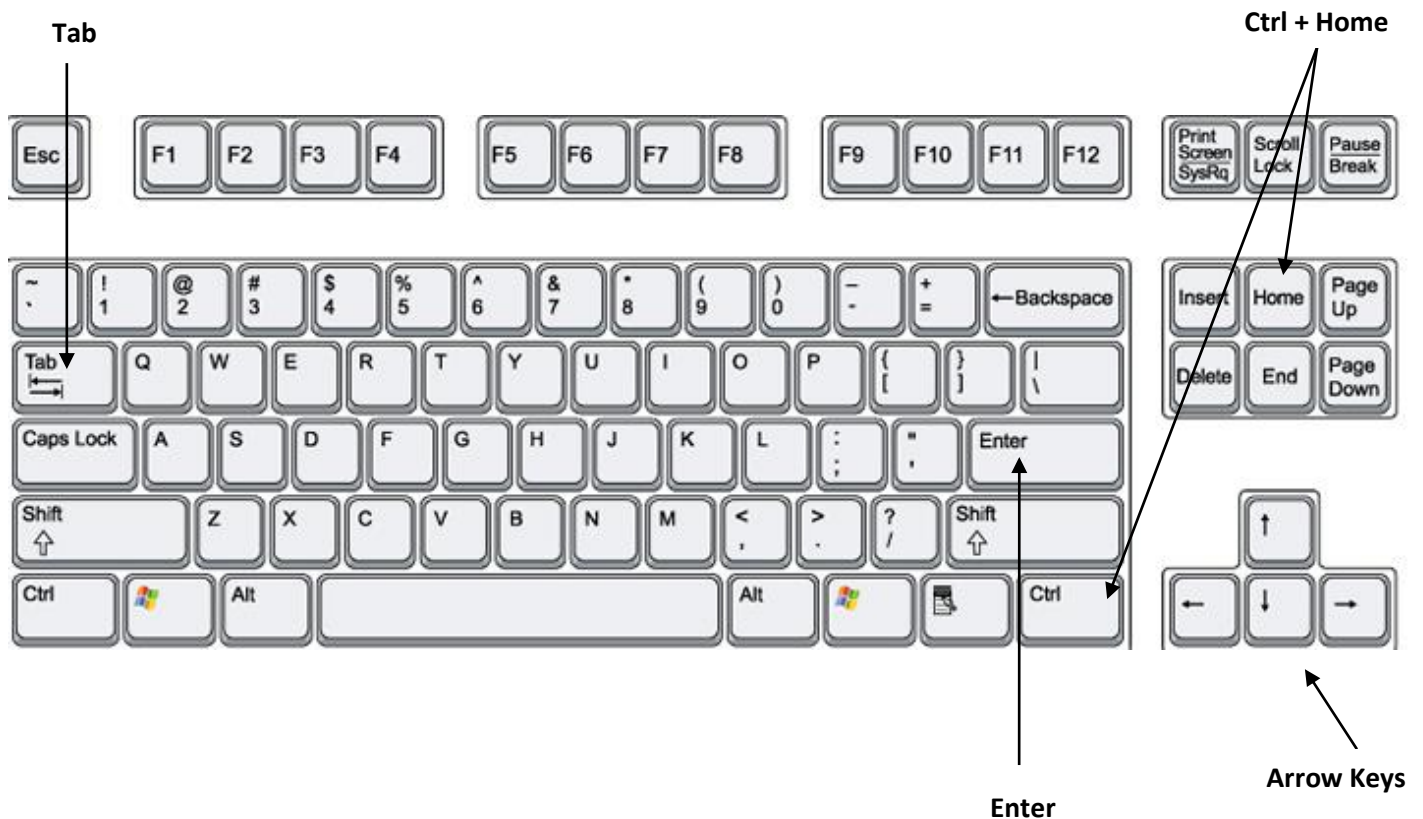


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## NAVIGATION

There are a few ways that you can navigate around your worksheet. Here are some of the most important ones:

- **Arrow Keys**- The arrow keys are a convenient way to move around your spreadsheet. Click on the appropriate arrow key to move you in the corresponding direction.
- **Tab**- The tab key can help with fast and efficient data entry. This key will allow you to move one cell to the right, staying in the same row. *Shift + Tab* moves one cell to the left.
- **Enter**- The enter key is also helpful. This key will move you one cell down, staying in the same column.
- **Ctrl + Home**- Press these two keys at the same time to return to your home cell, which is cell A1 (where all new spreadsheets will start).



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## ENTERING CELL DATA:

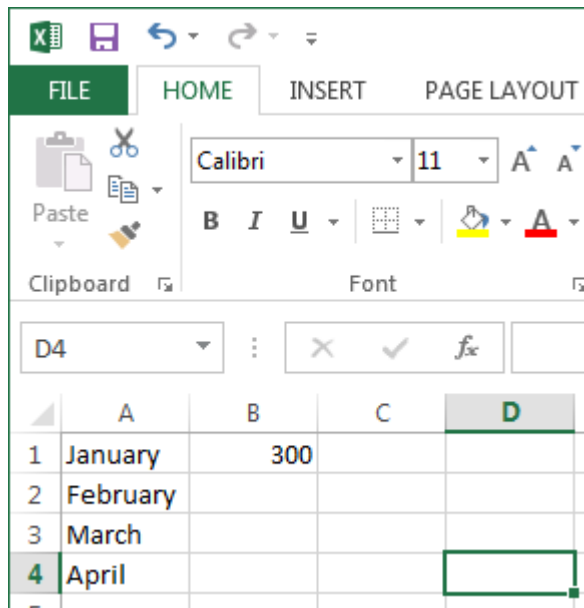
- Click on the empty cell where you want to put the data
- Type the data.
- Press the **Enter Key**

## DELETING CELL DATA:

- **Single Click** on the cell that contains the data to be deleted
- Press the **Delete Key**

## PRACTICE THESE SKILLS

- Click on cell A2
- Type in the word **February** and press **Ctrl + Home**
- Type in the word **January** and press the **Tab** key
- Type in the number **300** then use the **Arrow Keys** to move to cell **A3**
- Type in the word **March** and press the **Enter** key
- Click on cell **A4** and type **April** then click on cell **D4**
- The resulting table should look like the one below:



The screenshot shows the Microsoft Excel interface. The ribbon is set to 'HOME'. The font is 'Calibri' and size is '11'. The formula bar shows 'D4'. The spreadsheet has the following data:

	A	B	C	D
1	January	300		
2	February			
3	March			
4	April			

- Single-click on the cell **B1** and press the **Delete** key
- Now left-click and drag from cell **A1** through **A4** to highlight (select) all the data in Column A and press the Delete key

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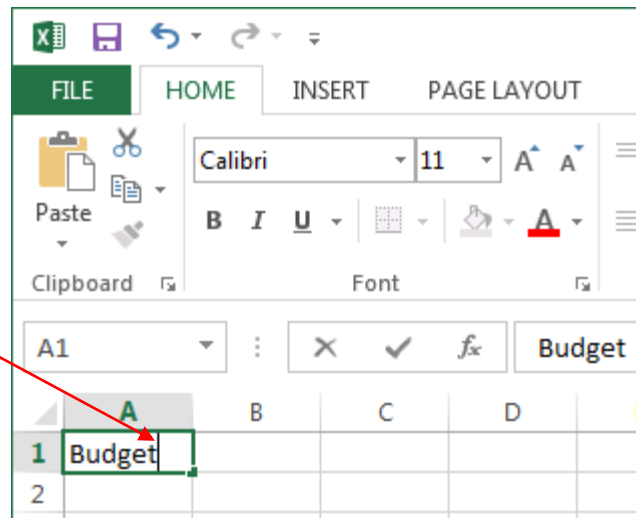
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## EDITING DATA IN A CELL

### Direct Cell Editing

- **Double click** on the cell you wish to edit.
- The cell will open for **direct editing**
- Make the necessary corrections
- Press **Enter**

You can see the blinking cursor inside the cell.

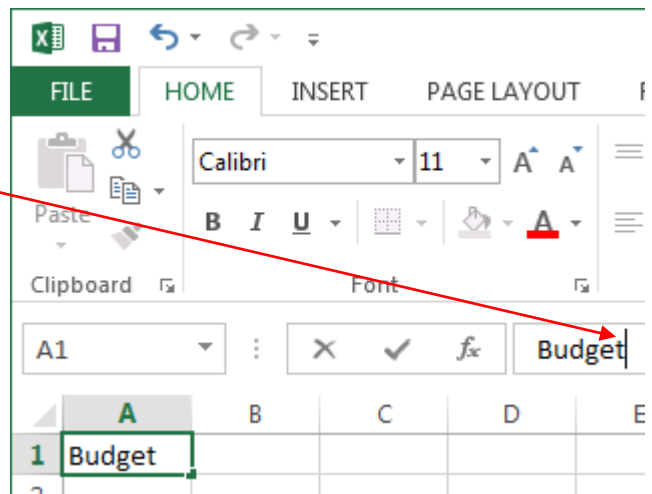


### Formula Bar Editing

- **Single click** on the cell you wish to edit
- Edit the entry in the formula bar

Press **Enter**

You can see the blinking cursor inside the formula bar.



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## COLUMNS & ROWS

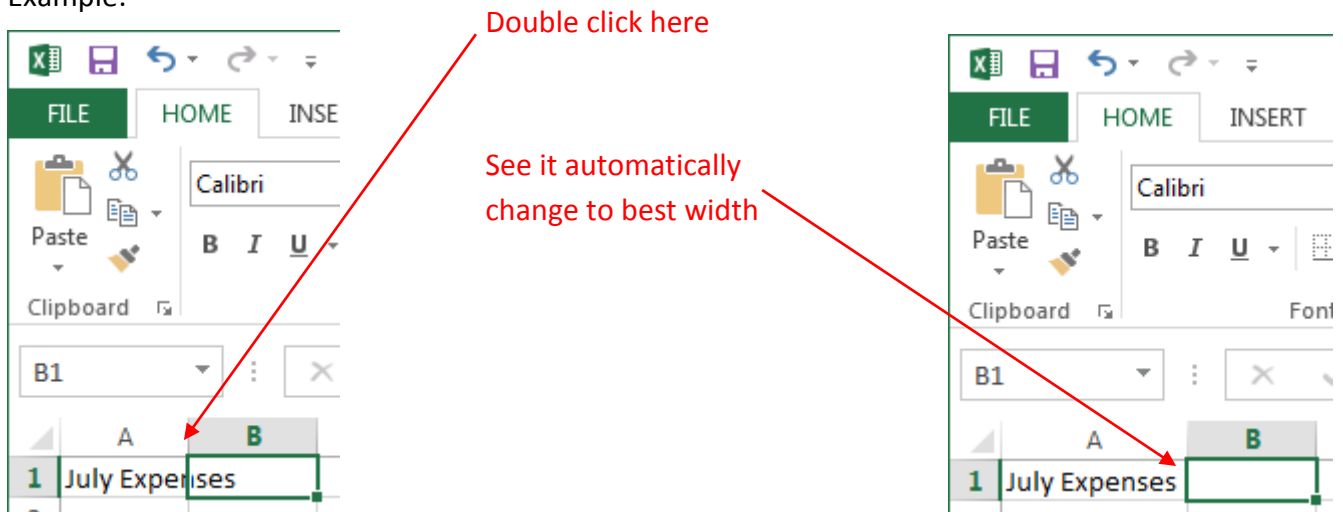
### Re-Sizing

Changing the size of a column or row to better show the contents of it can be done by following the steps below:

1. Find the border of the heading to the right of the column you want to change sizes or the border below the row you want to change sizes. Move your mouse pointer to that border.
2. Drag your mouse over that line and stop when your cursor changes from an arrow to a plus sign with arrows on either side.
3. Left click on the line and drag it smaller or larger depending on the width you desire.

**Re-Sizing Shortcut:** To automatically adjust the column or row's size you will simply double click on the line rather than dragging it. This will automatically adjust to the maximum size of any of your rows or columns.

Example:



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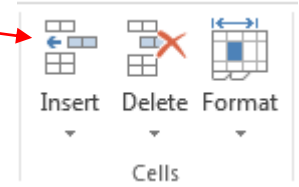


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## Adding a Column or Row

Here is what you will need to do to add a new column or row:

1. Left click on either the column letter to the right of where you want the new column to be (for example if adding one between A and B click on the letter B) or the row number below where you would want the new row to be (for example if adding one between 12 and 13 click on the number 13).
2. Then click on the *insert* button in the ribbon. It is located in the home tab under the cells group.



## Deleting a Column or Row

When deleting a column or row, the steps will be basically the same just like when adding one. Here is what you will need to do to delete a column or row:

1. Click on the column letter or the row number that you want to delete.
2. Then click on delete in the cells group on the home tab.

## Practice These Skills

1. Enter the data shown below:

	A	B
1	July	September
2	100	700
3	300	900
4		

2. Insert a new column for August between July and September (use the highlighted data below)
3. Insert a new row for 200 between 100 and 300 (use the highlighted data below)

	A	B	C
1	July	August	September
2	100	400	700
3	200	500	800
4	300	600	900
5			

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## FORMULAS

One particularly useful feature of Excel is its ability to do some math for you.

We can **add**, **subtract**, **multiply**, or **divide** values within different cells. Let's follow this example of creating a grocery list below:

1. Enter the following information:

	A	B	C	D
1	Groceries			
2	<u>Item</u>	<u>Price</u>	<u>Quantity</u>	<u>Total</u>
3	Bread	2.99	2	
4	Cereal	3.25	4	
5	Milk	3.19	6	
6	Eggs	1.99	3	

2. Select cell **D3** then press the equal sign =
3. Enter **coordinates** of cell with first value (**B3**)
4. Press the \* key for multiplication on 10-key pad (or shift + 8)
5. Enter **coordinates** of cell with second value (**C3**)
6. It should look like the figure below. Then Press **Enter**.

	A	B	C	D
1	Groceries			
2	<u>Item</u>	<u>Price</u>	<u>Quantity</u>	<u>Total</u>
3	Bread	2.99	2	=B3*C3
4	Cereal	3.25	4	
5	Milk	3.19	6	
6	Eggs	1.99	3	

**IMPORTANT!** Remember that every formula starts with **the equal sign!**

The most common mathematical operators found the keyboard are:

- + Add
- Subtract
- \* Multiply
- / Divide

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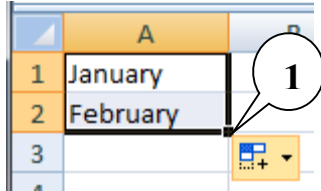
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## Auto Fill

The **Auto Fill** feature inputs information without retyping it in each box. You can type “January” and **Auto Fill** can fill in the rest of the months. The same works for numbers, days of the week and other text data series. **Auto Fill** can also repeat a formula across many rows or columns.

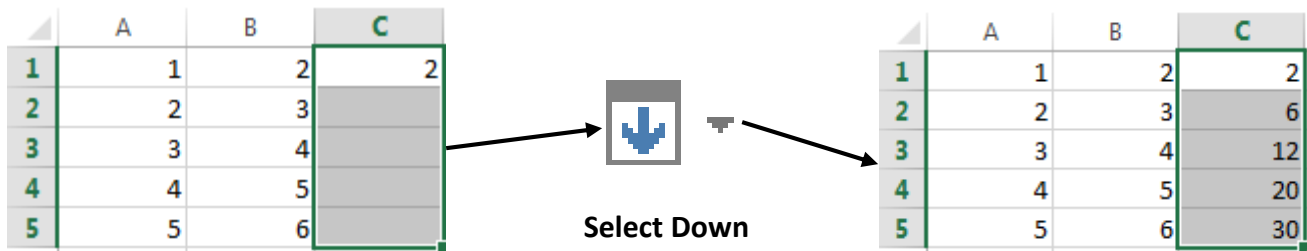
To use Auto Fill, simply select a cell containing a data series then left-click and drag on the **fill handle**

 (small, black square in lower-right corner) to select the cells you wish to Auto Fill.



1 Fill handle (drag it)

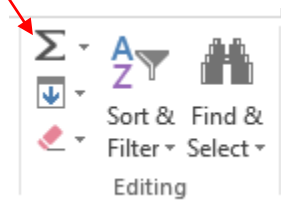
The second way to **Auto Fill** is by selecting the section of cells you want to autofill including the cell you filled in first. Then click on the **Fill button** in the Editing group on the home tab, and select the direction you want to fill the cells in (most of the time you will click down). Look at the picture below as an example (To practice on your own, type in  $=A1*B1$  in cell C1):



## AutoSum

Excel will automatically add up a long column or row of numbers; this is called AutoSum.

1. *Select the cell at the bottom or to the side of the list you wish to add up*
2. *Press the **AutoSum** button on the Home tab or just press the hotkey **Alt + =***
3. *Press **Enter***



## Practice These Skills

- **Make up your own formulas using addition, subtraction, multiplication, or division**
- **Practice using AutoSum on a row of numbers and then on a column of numbers.**

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## GRAPHS

With Excel you can represent the data you have entered as a graph. You may choose from several kinds of graphs: bar graphs, line graphs, pie graphs, etc. The basic steps are the same no matter which graph you choose:

1. *Highlight the data* you wish to use in your graph.  
(do not highlight section totals – only the data)

**NOTE:** If you would like to highlight data in rows or columns not located next to each other:

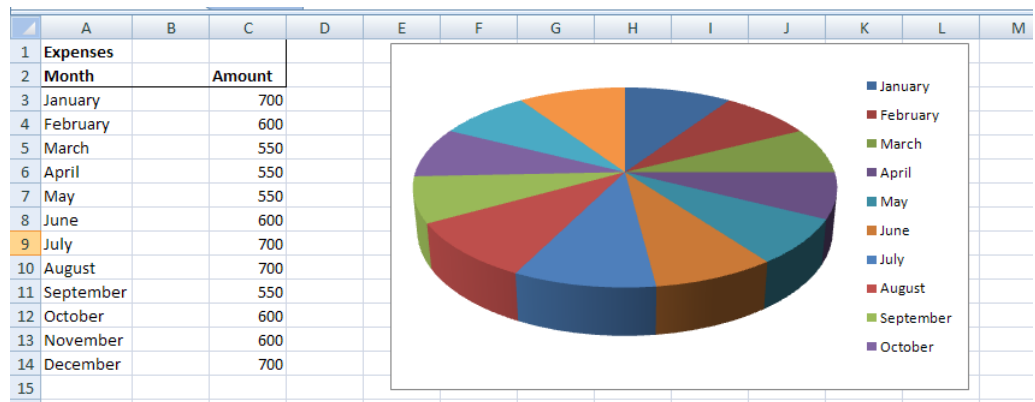
- Left-click and drag a portion of the first column or row to highlight it
- Press **and hold** the **Ctrl** key then highlight the other column or row of data

This allows you to select both!

Rent Expenses Example:

	A	B	C
1	Expenses		
2	Month		Amount
3	January		700
4	February		600
5	March		550
6	April		550
7	May		550
8	June		600
9	July		700
10	August		700
11	September		550
12	October		600
13	November		600
14	December		700
15			

2. *Select the Insert tab*
3. *Choose the graph* you wish to use
4. *Press Enter*



**Try these:**

- You can move the graph around the spreadsheet, just like a photo in a Microsoft Word document.
- Make the graph tall enough to display the entire legend. **The example graph above is not tall enough to display the months of November and December in the legend.**
- The graph will automatically reflect any changes you make to the data, so there is no need to re-create the graph after editing.
- Once the graph is selected, notice the new Chart Tools that appears on the Ribbon and contains **Design, Layout** and **Format** tabs. Single-click on the graph then select the **Design** tab and then select **Change Chart Type**. From the Column types, choose **Stacked Column in 3-D** then click the **OK** button. Change the data for **November** from 600 to **1600** and press **Enter** and notice the graph update.

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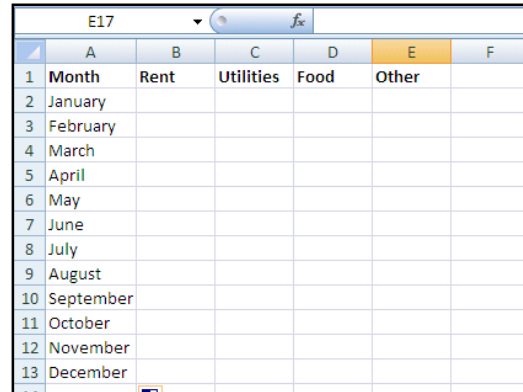
## PUTTING YOUR KNOWLEDGE TO THE TEST

Practice on your own

### Create your own annual budget in a new spreadsheet tab

- Create a new spreadsheet tab by clicking on the + sign to the right of the Sheet 1 tab at the bottom of the spreadsheet.
- Type "Month" into cell A1, "Rent" into cell B1, "Utilities" into cell C1, "Food" into cell D1
- Enter all 12 months of the year into cells A2 to A13 (Try using AutoFill!)
- Now highlight row 1, and **BOLD** (Note: Use the Home tab just like in Microsoft Word)

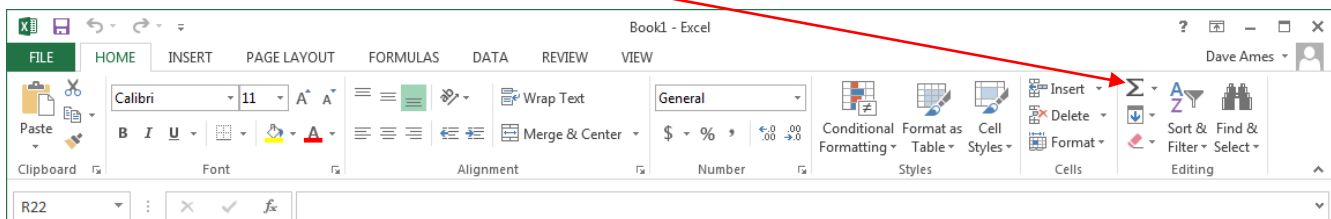
- Your budget should look like this →
- Now add some dollar amounts in the empty spaces



	A	B	C	D	E	F
1	Month	Rent	Utilities	Food	Other	
2	January					
3	February					
4	March					
5	April					
6	May					
7	June					
8	July					
9	August					
10	September					
11	October					
12	November					
13	December					

### Add totals to your budget

- Select cell **B14**
- Press the **AutoSum** button



- Press **Enter** – now Excel will add up all Rent expenses
- Repeat for each section of your budget (**C14**, **D14** and **E14**)
- For monthly totals we will use formulas. In cell F2, type  $=B2+C2+D2+E2$  and press **Enter** to get a monthly total of expenses. Type in the formulas for the rest of the months in column F (cells **F3**, **F4**, etc.) or to save time just use Auto Fill down the column from **F2** to populate the lower cells with similar formulas.

Now you can see and keep track of your total monthly expenses!

**Bonus Practice:** Use the Insert tab to make a 3-D Pie Chart from your budget data (select the month names and the dollar amounts – but not the totals).

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## Sorting data in lists

Sorting is a common task that allows you to change or customize the order of your spreadsheet data to better organize your information. Data can be sorted by text (in ascending A to Z, or descending Z to A order), numbers (smallest to largest or largest to smallest), or by dates (newest first or oldest first). Using the custom sort dialog, you can also sort by many other criteria: formats, colors, fonts, etc.

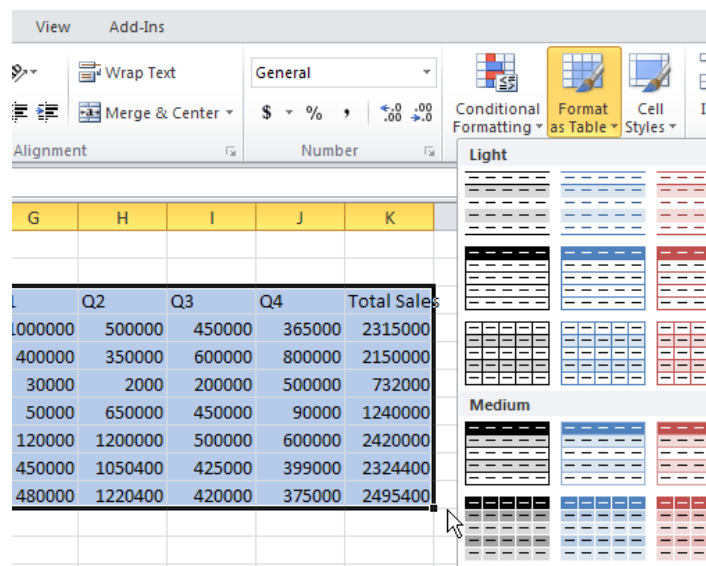
Perform a simple sort:

1. *Select the column or row you want to sort.* You may need to highlight with the mouse so as not to select column or row totals.
2. On the ribbon, *click on the Data tab*
3. Click **Sort** button, which allows you to make more complicated and custom sorts.
4. For most purposes you will merely use the A→Z or Z→A buttons to sort:
  - Alphabetically
  - Numerically
  - By date and/or time

## Formatting as a table

Formatting your spreadsheet as a table can make it look better and in some cases can also make it easier to manage.

1. Highlight all of the cells you want to include in your table
2. Under the **Home** tab, click on **Format as Table**
3. Choose a table that looks nice.
4. Click “OK” to choose the data for your table when the box pops up
5. Check out the new **Design** tab in the ribbon where you can change the look of your table.



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