



**COURSE: Mechanical Engineering / Automotive Engineering**  
**SUBJECT: AMEM 100 Freshman ME / AUTO 100 Freshman AE**  
**Lecturer: Charalambos Athanasiou**

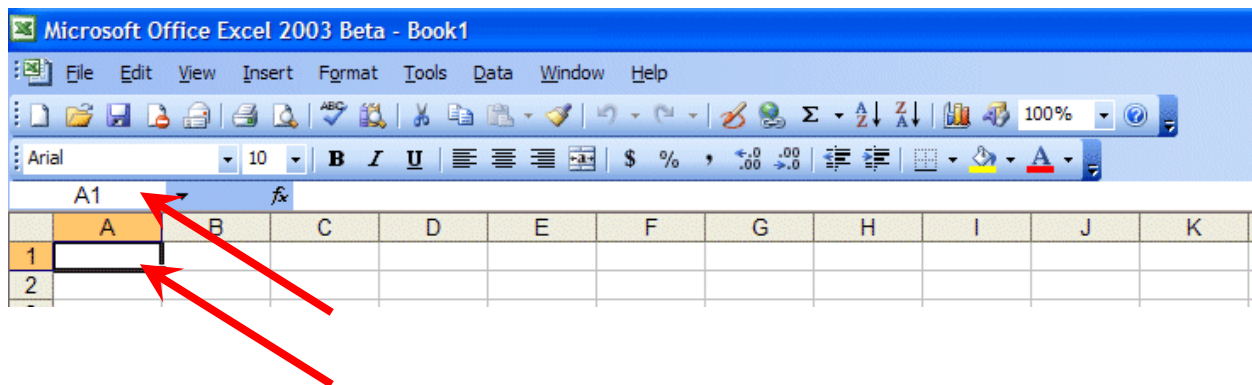
## Starting Excel 2003

In the following exercises you will **learn** some of the necessary steps to **create a spreadsheet** using **Microsoft Excel 2003** for Windows 2000, Me, and XP. You will learn not only how to type various items into the spreadsheet, but also how to copy columns, widen columns, fill columns, add, subtract, multiply, divide, do graphics and a variety of other “things.”

To begin, **load** the spreadsheet by **quickly clicking twice** on the **Excel 2003 Windows Icon** in the **Windows Screen**. If you **do not see an Excel Icon**, **click-on** the **Start Button** in the **lower left corner** of the screen, move the cursor up to **Programs**, and then move to **Microsoft Excel 2003** and **click-on** it.



A **spreadsheet** is a “**number manipulator**.” To make the manipulation of numbers easier **all spreadsheets** are organized into **rows** and **columns**. Your initial spreadsheet will look something like the one below:



**Notice** that the “**main**” part of the spreadsheet is composed of **Rows (Labeled 1, 2, 3, 4, etc.)** and **Columns (Labeled A, B, C, D, etc.)**. There are a lot of rows and columns in a spreadsheet. The “**intersection**” of each row and column is called a **cell**. In the image above the **cursor is on** the “**home**” cell – **A1**. **Notice Row 1 and Column A are “bold,”** and colored “**orange.**” This **indicates** what is called the “**address of the cell**. **Notice right above cell A1, that A1 is displayed** in a **small box** called the **Name Box**. Whenever you “**click**” on a cell the address of that cell will be shown in the Name Box.

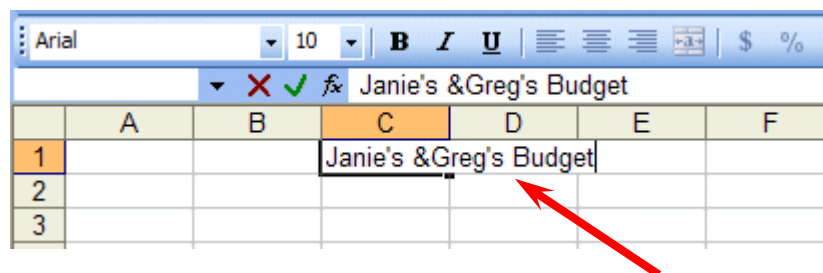
**In this tutorial, whenever we indicate that you need to click the mouse, it will mean to click the left mouse button – unless we indicate that you should click the right mouse button. So, always “click left” unless we tell you otherwise.**

## Moving Around the Spreadsheet

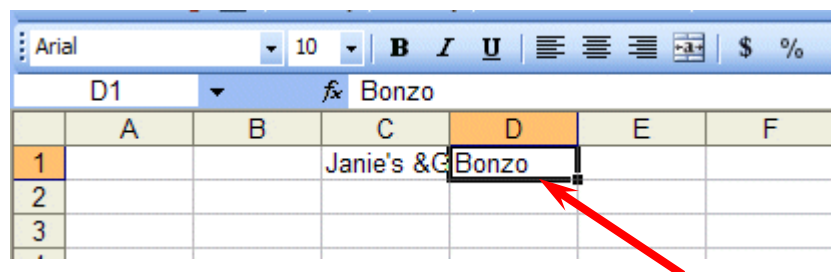
You can move around the spreadsheet/cells by **clicking** your mouse **on** various **cells**, or by using the **up, down, right and left arrow movement keys on the keyboard**. Or, you can move up and down by using the “elevator” bars on the **right and bottom** of the spreadsheet. Go ahead and **move around the spreadsheet**. **Hold down the down arrow key on the keyboard** for a few seconds – then **click-on a cell**. Notice how the **Name Box** always **tells you “where you are.”** Now hold down the **right arrow key** on the keyboard for a few seconds. Notice how the **alphabet changes from single letters (A, B, C, .... Z) to several letter combinations (AA, AB, AC)**. There are **hundreds of columns and thousands of rows** in a spreadsheet. **Anytime** you desire to **return to the Home Cell (A1)** simply **click-in the Name Box and type-in A1**. Then **tap the Enter key** and you will **go to cell A1**. You can go to any cell by this method. Simply type-in a row and column, tap the Enter key, and you’ll go to that cell.

Now that you have the “feel” of how to move around Excel spreadsheet, **go to the cells as indicated below and type-in** the following:

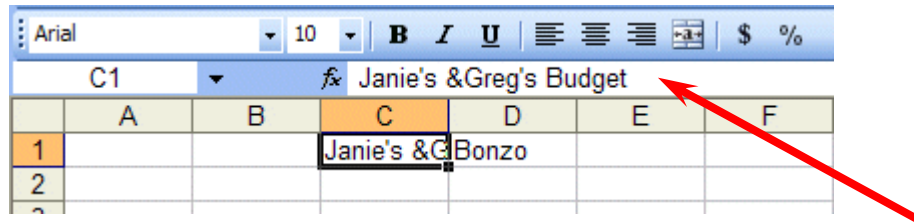
**C1 (Your Name)'s Budget.** It should look similar to the image below. **Do not tap Enter** when you finish



**Look at cells C1 and D1.** Notice how your **entry has spilled over from C1 into D1**. Sometimes this is a problem, and sometimes it is not. **Tap the Enter key** and then **click-on cell D1** and **type-in** the word **BONZO** and **tap Enter** key.



Notice how **Bonzo** now **COVERS** the **right part of your original entry!!** Now **move back** to cell **C1** and **click-on it**. Look at the upper part of the spreadsheet, just above the cells where you typed Bonzo. Your name and the word budget are still there! Bonzo only **COVERED** the **portion in cell D1**. See the image and arrow below.



There are **several ways** to **take care** of this. For the moment **move back** to cell **D1** and **click-on** cell **D1**. **Tap** the **Delete** key (above the arrow movement keys on the **keyboard**). Notice that **Bonzo disappears** and your **entire entry reappears**. This is one way to expose the entry. We'll look at some others as we go along.

Now we'll continue making some entries. **Move** to the **following cells** and **type-in** the **information indicated**. You can click-on each cell and then type-in the entries.

If you happen to **make a mistake** simply **retype the entries**. Later on we'll see how to edit mistakes. Any time you want to replace something in a cell you can simply retype a new entry and it will replace the old one.

<u>Cell</u>	<u>Type-in</u>
A3	Income
B4	Parents
B5	Job
B6	Investments
B7	Total
A10	Expenses
B11	Food
B12	Beverages
B13	Parties
B14	Miscellaneous
B15	Total

Your **spreadsheet** should now look like the **picture** on the **right**.

	A	B	C	D	E
1			Janie's & Greg's Budget		
2					
3	INCOME				
4		Parents			
5		Job			
6		Investments			
7		Total			
8					
9					
10	EXPENSES				
11		Food			
12		Beverages			
13		Parties			
14		Miscellaneous			
15		Total			
16					

At this point you probably have noticed, the words "Investments" and "Miscellaneous" run over the spaces given in the cells. Do not be concerned at this point. We'll soon fix this.

Now, **type** the **numbers** in the **cells** indicated:

**C4**    **300**  
**C5**    **50**  
**C6**    **150**

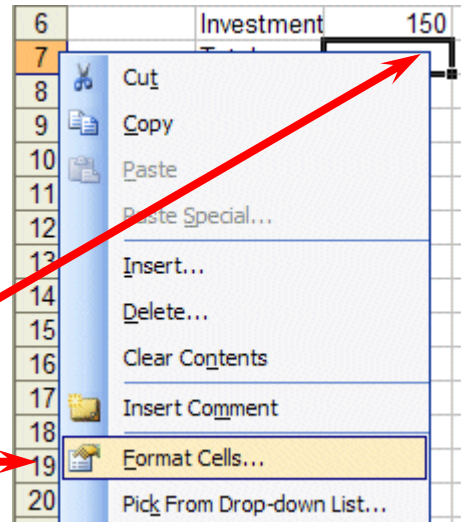
When you **type**-in the **150**, **tap Enter**.

Your **spreadsheet** should look like the one on the **right**. We would like to **place an underline** at the **bottom of the three figures** so that we can **indicate a total below** – in cell **C7**. Point to cell **C7** with the mouse. That's where we want the line -- **always move the cursor to the place where you want to insert a line**. With the Arrow on cell **C7** tap the **RIGHT** mouse button.

	A	B	C	D	E
1			Janie's & Greg's Budget		
2					
3	INCOME				
4		Parents	\$300.00		
5		Job	\$50.00		
6		Investment	\$150.00		
7		Total			
8					
9					
10	EXPENSES				
11		Food			
12		Beverages			
13		Parties			
14		Miscellaneous			
15		Total			
16					

A sub-menu with a caption **Format Cells** appears.

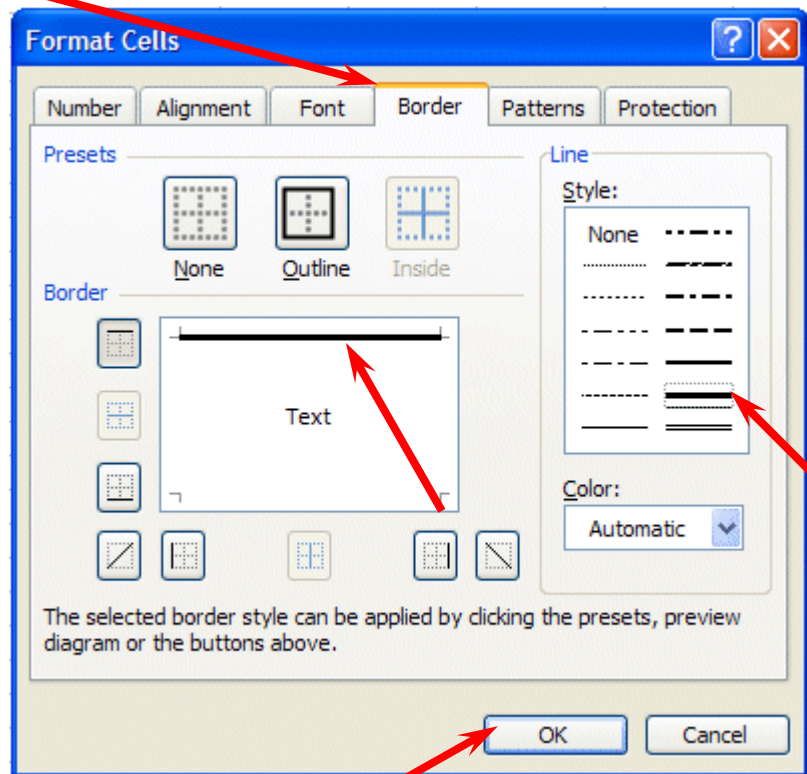
The **right click** will “always bring up” a menu that is “tailored” to the “place” where you click. This will work in any Microsoft Windows product. You can always tell “where” you click the right mouse button for the cursor arrow will always be in a corner of the menu that appears – exactly where you clicked the right mouse button..



Select **Format Cells**.

When the **Format Cells** menu screen below appears, select **Border**.

Look at the **Line Style** box in the **lower right**. There are several types of lines that you can choose. Point to the **thick single line** in the **Style Area** (see arrow) and **click** the **left mouse button**. A **box** will go **around the line**. Look at the area which says **Border**. Point to the **upper part of the Text box** (see arrow) and **click** the **left mouse button**. A **thick black line** will appear at the **top** of the **Text** box.



If the **thick line does not show-up** at the **top** of the **Text** box, **click-again** at the “top line area in the Text box” and the line will “disappear”. Then click-on the thick, single line in the Line Style box again and repeat the previous instructions. If, somehow, you make a **mistake**, simply **click “on and off in the Text line boxes.”** You will notice that the lines appear and disappear. This is called a “toggle” in computer jargon. So, work at this until you get the line on the top or where you want it. We have just indicated that we want a single thick underline at the top of the cell C7. Point to **OK** and **click** the **left mouse button**.

When you **return** to the **spreadsheet**, **click somewhere other than cell C7**. This is called “**clicking away**.” You should now **see a line at the top** of cell **C7**. Sometimes the box highlighting a cell hides the lines. If you “**messed-up**”, try again.

Now type in the numbers in the cells indicated.

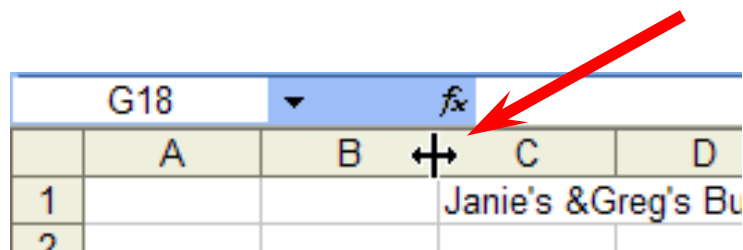
**C11 30**  
**C12 50**  
**C13 150**  
**C14 70** (After you type 70, tap the **Enter** key)

Now, **underline the top** of cell **C15** like you did cell **C7**.

## Widening Columns

You probably **noticed**, as you typed in the numbers, **some of the words** were just **too wide** for the default **cell width** (Investments and Miscellaneous). Let's **widen column B** to take care of this.

**Slowly move the mouse arrow** to the **right edge of the B cell (between the B and the C)**. The cursor will turn into an **arrow pointing right and left with a small vertical line in the middle** (see arrow below). **Hold down** the left mouse button and **move (drag)** the line to the right.

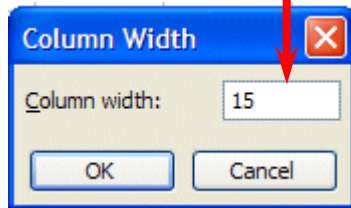
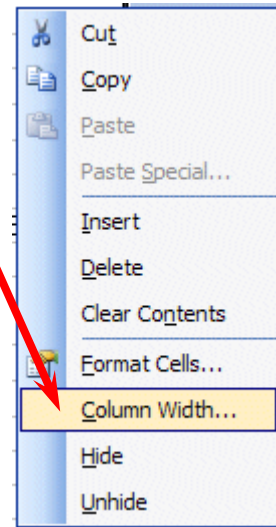


As soon as you **start to move (drag)**, a **dotted vertical line** will **go down the spreadsheet** and it will **move as you hold down the left button and drag the mouse**. **Keep dragging** to the right **until** you are **past the widest word** and a bit more (for some space). Release the button. The column is widened. Notice in the upper left corner of the screen, below File in the menu bar, and above the buttons, that as you hold down and drag that it tells you that current width of the column.



This is one way to widen a column. Here is **another way**. Point to the **B** at the **top of column B** (in the **Gray** area) and **click the left mouse button** (The cell should turn **dark blue** and the **column light blue**.).

Now, **keeping the cursor** somewhere in the “**blue**” area, **click the Right Mouse Button**. Notice that a **menu with Column Width...** appears. **Click-on Column Width...** and **type in 15** and **click-on OK**. This is another way to widen a column.

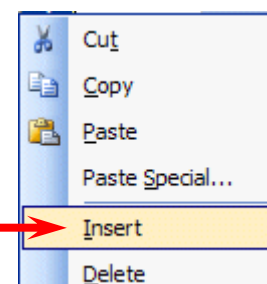


## Inserting Rows

**Oops... a mistake** (on purpose). We **haven't left enough room** at the top of the spreadsheet to **insert** some budget **months**. So... move the cursor to the **gray 2** along the **left edge** (this is the second row) so we can **insert two new rows**. **Click the left mouse button**. You will notice that the whole row goes **light blue** and the **2 turn's dark blue**. **Make sure the cursor arrow** is either **on the 2** or **somewhere in the blue row**.

	A	B	C	D	E	F
1	Janie's & Greg's Budget					
2						
3	Income					
4		Parents	300			

**Click the RIGHT** mouse button. A drop down menu will appear. Point to **Insert**. **Click the left button** on **Insert**. Notice how **one row** was **inserted** and how **everything below** moved down. Do this **again** to **insert another row**. Excel, and all spreadsheets, will remember where they moved your work and automatically adjust for these changes. **Income** should now be in cell **A5**.

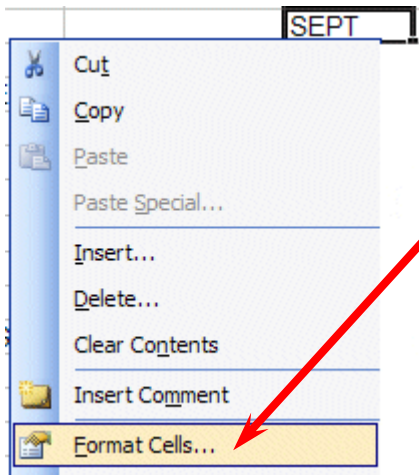


## Aligning Cells

Now we'll type some more. Go to cell

**C3 SEPT (Type-in SEPT and tap the Enter key)**

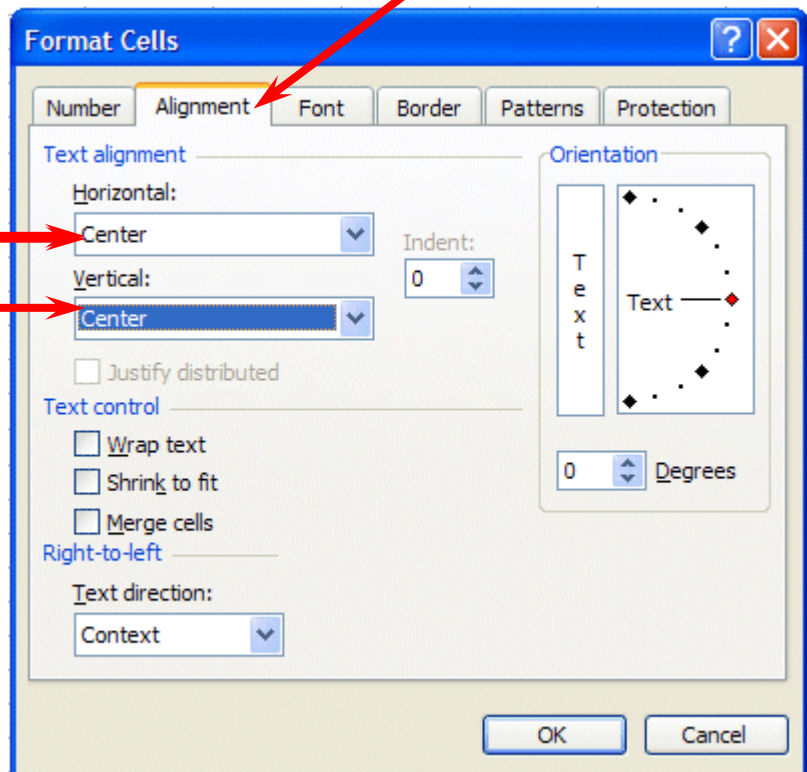
Notice again how **SEPT** is **automatically left aligned**. Logically, since you are using Excel, the English version, the text is left aligned so that all of the text entries will line up nicely in the column cells. We would like to **center SEPT** in cell **C3**. **Click** on cell **C3** to “mark” the cell. One way to **center SEPT** is to simply **click-on** the **Center** button in the **button bar** at the **top of the screen**. **Make sure** that you are **ON cell C3**, then **click-on** the **center button** (see image above right). You'll notice that SEPT is now centered in cell C#.



Here is another way to center SEPT. **Click RIGHT** on cell **C3**. Then click on **Format Cells**.

When the **Format Cells Menu** appears, **click-on** the – **Alignment Tab** and then **click-on -- Horizontal - Center --Vertical - Center --** then click **OK**. Try it.

This is how you can align words for neatness. You can also point to several cells you want aligned and do this. We'll try that next.



Now type the below text in the cells indicated.

**D3**    **OCT**  
**E3**    **NOV**  
**F3**    **DEC**  
**G3**    **MONTHLY TOTALS**    (tap the **Enter** key and then **correct the width** of this column)

Next we'll **highlight** cells **C3 through G3**. To do this, point to **C3** and click the **Left mouse button**. Then, **holding down** the left mouse button, **drag the mouse to the right through G3** – when the cells are **highlighted** – **take your finger off of the left mouse button**. Then **point** to the **group of cells** and click the **right** mouse button to bring up the **Format Cells** menu. Click on **Alignment** and choose **Center (vertical & horizontal)**. Then point to **OK** and **click** the **left** mouse button. All of the cells will then be as centered.

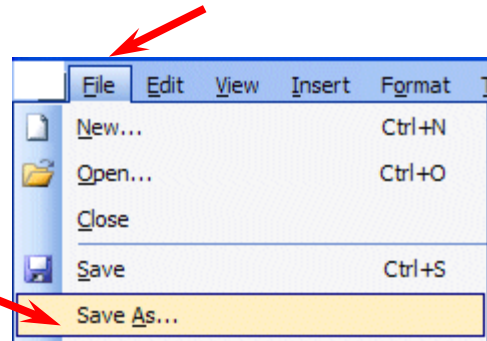
B	C	D	E	F	G	H
	Janie's & Greg's Budget					
	SEPT	OCT	NOV	DEC	MONTHLY TOTALS	

You could **also click** the **Center** button as you did before.

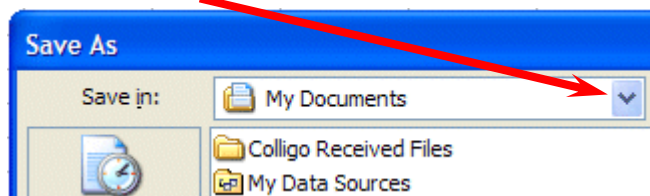
**MONTHLY TOTALS** will **not fit its space** when you do this. But, **you know what to do**. Move the cursor over the line between cells G and H and drag the line to the right to widen the G cell just like you did a few minutes ago.

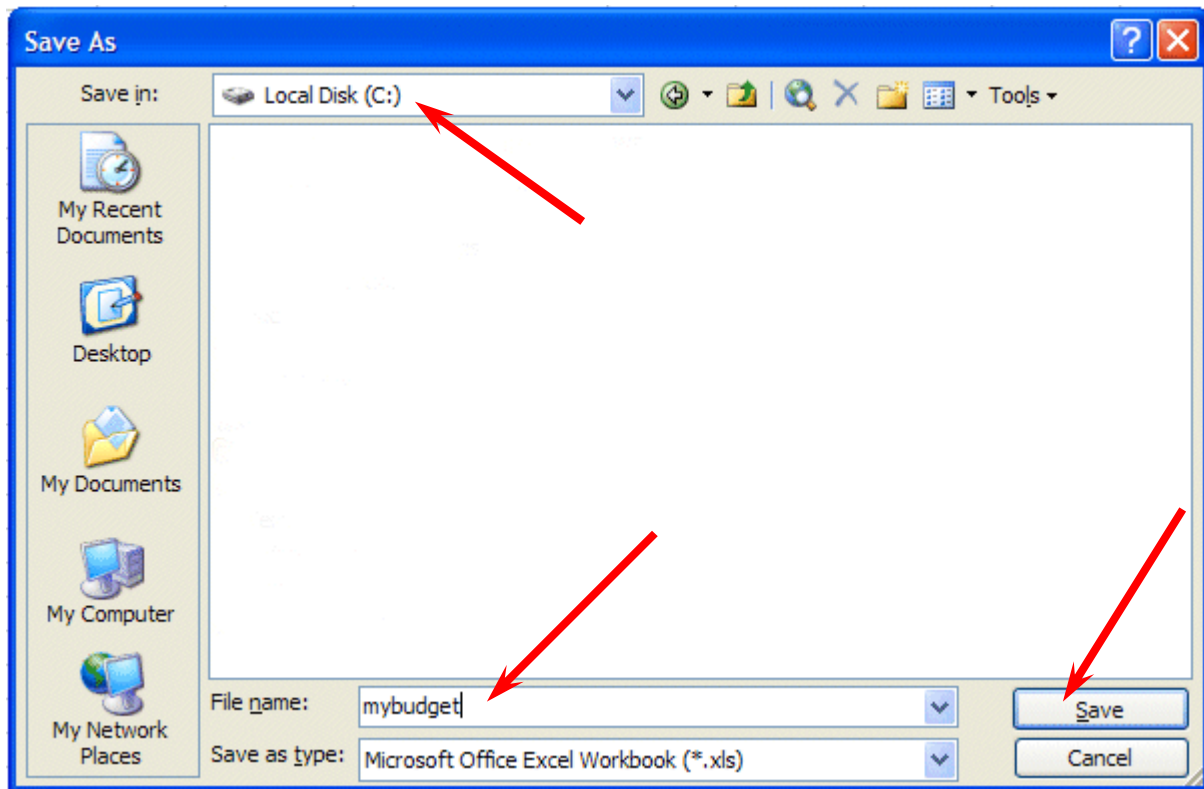
## Saving Spreadsheets

We have done quite a bit of work so now is a good time to save our spreadsheet. Point to **File** in the **Menu Bar** at the **top** of the **spreadsheet**. Point to **Save As** and **click-on Save As**. A **Save As** menu box appears (like the one below).



Notice in the **upper left corner** that there is a **“box”** to the **right of Save In:** with a **down pointing arrow** to the **right**. **Click-on** the **arrow**. This will **show** you **all** of the **“drives”** and **“folders”** where you may save your work.



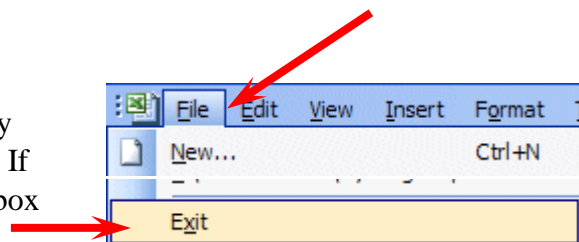


When you see the drop-down list in the Save in: area, choose the drive where you want to save your file. If you are going to use a diskette, **put a formatted 3 ½ diskette in the A Drive**, then **click-on the 3 ½ Floppy (A):**. We are going to save our file on the Local Disk (C:) – our hard drive, so we chose that drive in the image above (see **top arrow**).

To the right of **File name:**, delete the information (which is in the box) and **type-in MYBUDGET** (see **lower left arrow**). This is the name under which you are saving your file. (In the future you will choose logical names for your spreadsheets as you save them.) Now point to **Save** and **click** the **left** mouse button (see **lower right arrow**).

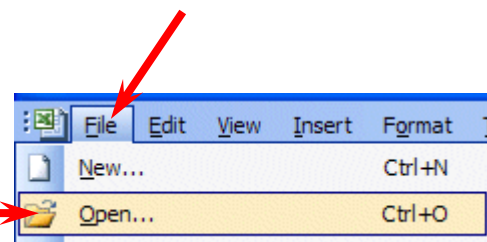
## Exiting Spreadsheets

Anytime you need to leave your spreadsheet simply click on **File** in the **menu bar**, then **click-on Exit**. If you **have not saved** your spreadsheet, a reminder box will appear **asking you to do so**.

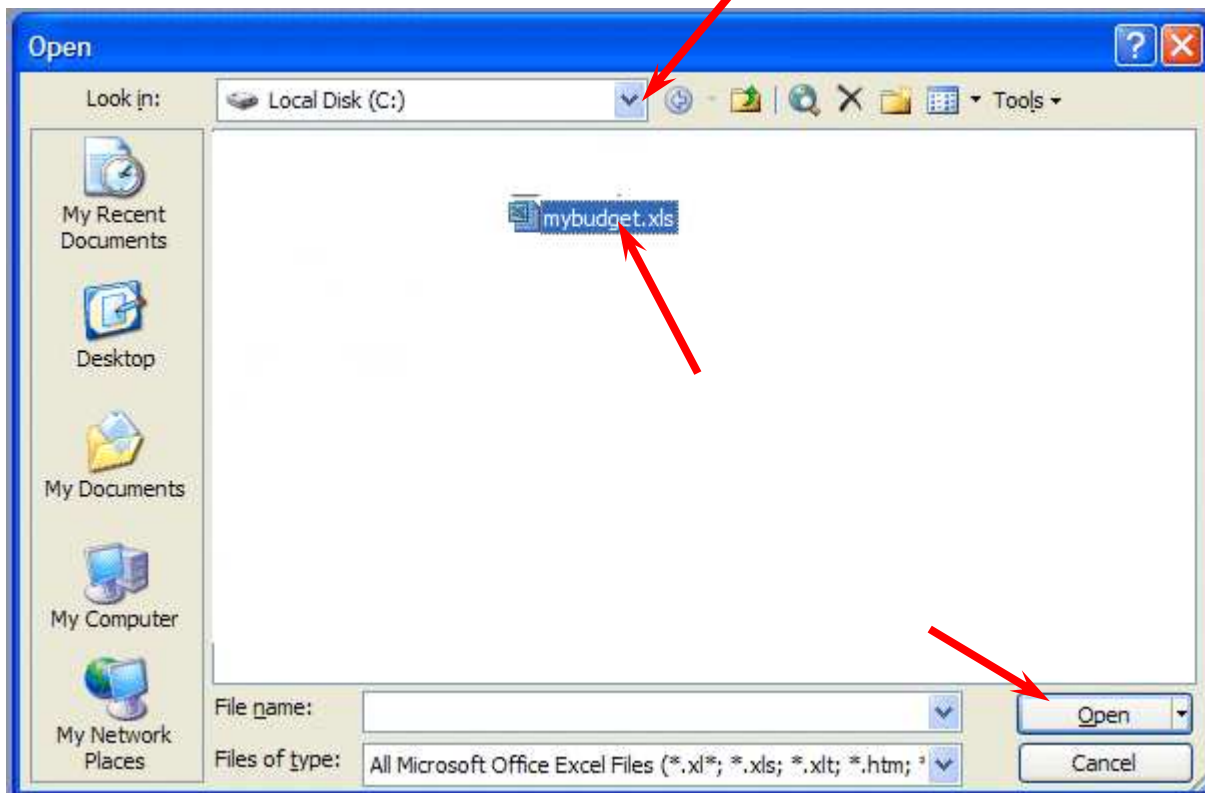


## Retrieving Spreadsheets

When you need to **return to a spreadsheet**, you first **load Excel**, as you did **originally** (Page 1). When Excel is on the screen, **click-on File** in the menu bar then **click-on Open**.



The following **Open** menu screen will appear:



**Click** on the **down arrow** to the right of the **Look in:** box (Similar to the arrow in the Save in: box – see **top arrow**). Click-on the **3 ½ Floppy (A:)**, or the drive or folder you chose. Files saved on a disk or in a folder will appear in the box below. **Click-on** your file (**MYBUDGET**), and then **click-on Open**. Your file will open. You could also **double-click quickly on the file to open it**.

Also, if you have not done so already, **move your cursor slowly over the "buttons" located below the menu bar**. You will notice a **little box** appears that tells you what these buttons do. These little boxes are called **Text Help** boxes. Many of them will **save** you extra “clicks” by using them. **Notice**, that under **File** and **Edit** in the **Menu bar**, there are a **small folder (Open)** and a **diskette (Save)**. Clicking-on them will take you directly to Open and Save.

## Adding Numbers

Next we want to learn how to add numbers. There are several ways to do this. Each method has its advantages and disadvantages.

To do this, begin by **moving** your cursor to cell **C9**, and **clicking-on** cell C9.

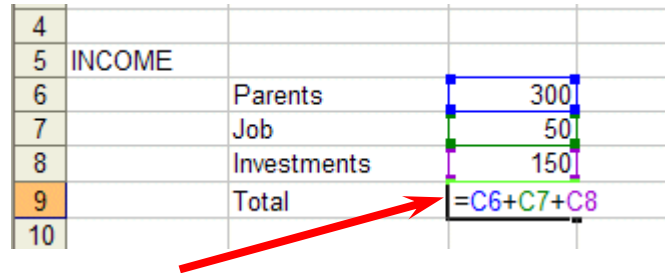
**Always move to the cell where you want the answer to be located.**

## TYPE-IN METHOD

We want to **add** the three numbers in cells **C6, C7 and C8**. To use this method **type-in** (using the keys on the keyboard) the following in cell **C9**:

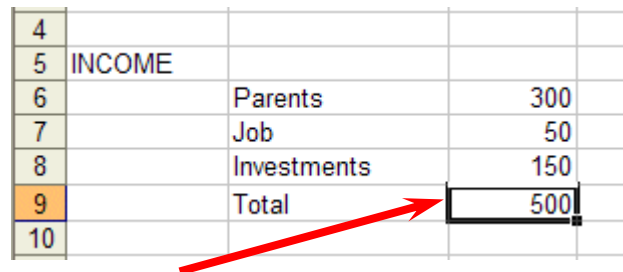
$$= C6 + C7 + C8$$

Your spreadsheet should look like the image to the right as you are typing in this equation. Note: you don't have to use capital letters – we only did this because they are easier to “see” in the tutorial.

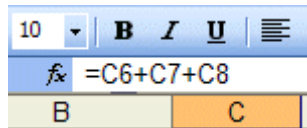


4			
5	INCOME		
6	Parents	300	
7	Job	50	
8	Investments	150	
9	Total	=C6+C7+C8	
10			

Now – **tap** the **Enter** key. Then, **click** on cell **C9** again. The **total** of these cells will now **appear** in **C9**.



4			
5	INCOME		
6	Parents	300	
7	Job	50	
8	Investments	150	
9	Total	500	
10			



When you have completed typing your equation, you will see this **formula** in the area **below the menu bar**.

**Change** the number in cell **C6** to **500** (and **tap Enter**). See how the total **AUTOMATICALLY** recalculates!!!

### **THIS IS THE TRUE POWER OF THE SPEADSHEET !!!**

**Whenever a number is entered in a cell the entire spreadsheet will automatically recalculate.**

**Something happened here.** Notice how you typed in an (equal sign) = **before the cell location**. If you had simply typed in C6 + C7 + C8, Excel would have thought this entry was a **word (text)** and this entry would have shown as you typed it.

Try this if you want. Any time you “create” an error in Excel, you can simply re-type or edit the formula to correct the error.

The **Type in Method** is really easy if you have a **few numbers and can see their cell locations on the screen**. If you have a lot of cells in the formula, which are on several screens, this is not such a great method. The next method will work a lot better for numbers “all over the place.”

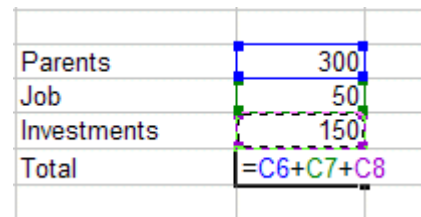
## Subtraction, Multiplication, and Division

You can put in a (minus) - for **subtraction**, (asterisk) \* for **multiplication**, and (slash) / for **division**. As you become more capable we'll, build some nifty formulas – using these features.

### Point Method

Move to cell **C9** again and **click-on it**. We'll now add the numbers a second way. **Tap the Delete key** on the **keyboard** to **delete the current formula**.

**First, tap the =** and then **POINT (move) the cursor** over cell **C6** using the **mouse, tap the left mouse button on cell C6** (you will see a marquee box go around the cell). Now **tap a +** and **move cursor to C7**, **tap the left mouse button**, and **tap another +** and **move the cursor to C8** and **tap the left mouse button** (notice how as you " + and point " the addition formula is **being built in cell C9**), now **tap Enter**. The **same formula** can be **built using the arrow movement keys on the keyboard** (except that you don't have to click-on each cell as the cell is marked - as you move the arrows). **Notice**, as you are **entering the cell addresses**, that as you place another + in the **formula**, that the **cursor "returns" to cell C9**. Also **notice**, as you **point** to each **cell** that it is **highlighted** by a "marquee box." This "tells" you what **cell** you've **pointed to**. Pretty neat!



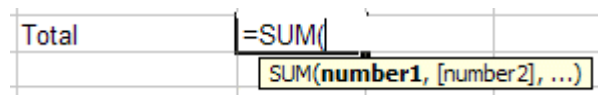
Parents	300
Job	50
Investments	150
Total	=C6+C7+C8

This **method is good** when you need to move to **numbers that are spread out all over the place**. Some people like it best and use it all the time -- it's your choice.

### Function Method

**Move** again to **cell C9**. **Delete the formula** by **tapping the Delete key** again.

Now **type in** the following: **=SUM(**



Total	=SUM(
	SUM(number1, [number2], ...)

[This **tells Excel** that we are going to **sum** some **numbers** in a **RANGE** which will follow the **=SUM(.]**

There are **two ways** to put in this range:

**Arrow Key and Anchor Method:** With the **keyboard** arrow keys, move the cursor to cell C6. As you move you will notice that the cell where the cursor is located appears after the =SUM(. When you get to C6 tap the . (Period) Key. This is called an ANCHOR and holds one end of the RANGE in place. You will notice that a C6:C6 appears in the formula area under the button bar. This is a **one cell range**. Now move, with the arrow keys, to cell C8. See how cells C6, C7 and C8 are highlighted. This indicates the **Range is C6:C8**. Excel assumes, logically, that these are the numbers you want to add. Now tap Enter. The numbers still add, but now the formula reads =SUM(C6:C8) instead of =C6+C7+C8 like it did before.

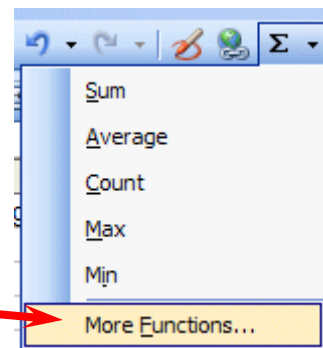
**Mouse Method:** Move again to cell C9. Delete the formula in cell C9 by tapping the Delete key. Type in =SUM( as you did before. Point to Cell C6 – with your mouse cursor. Click and hold down the left mouse button and move/drag the cursor down to cell C8. (Cells C6, C7 and C8 should be highlighted.) Now tap Enter.

This =SUM Function is a **great way to add a lot of numbers, or a block/range of numbers**. By simply anchoring, and using page downs, or using the mouse, you can highlight lots and lots of numbers to add quickly. However, since it only sums you can't do subtraction, etc.

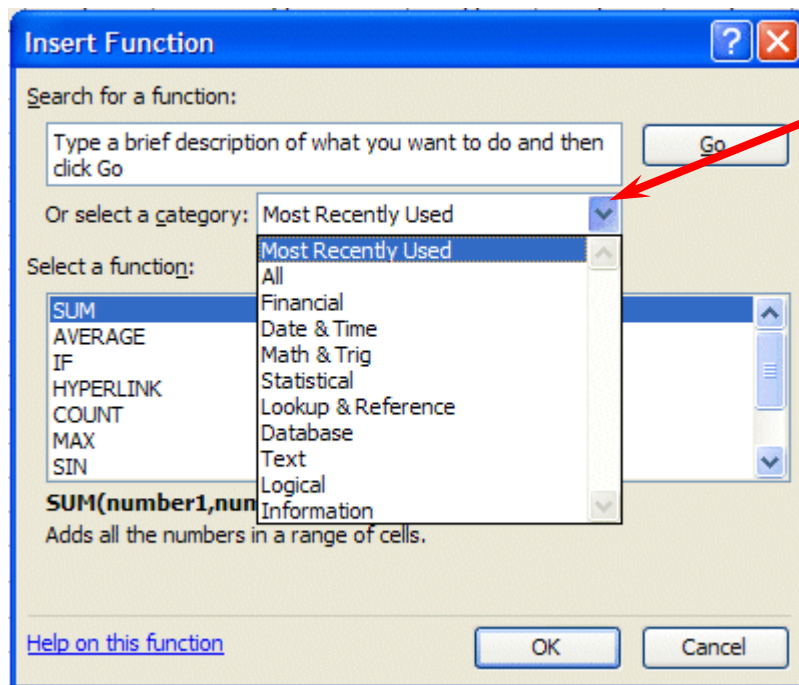
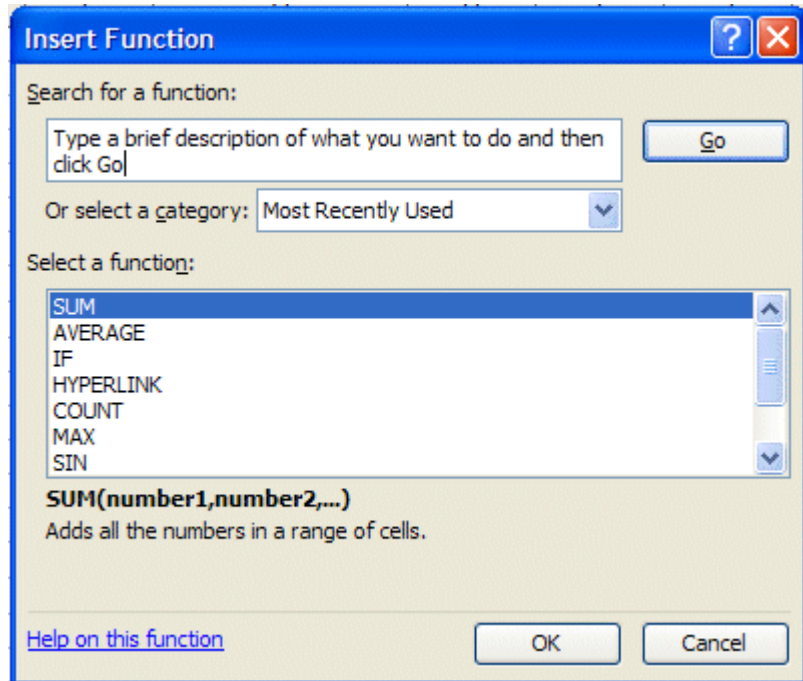
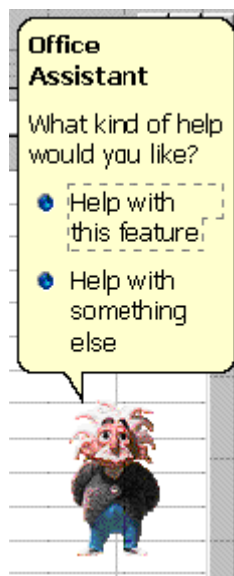
Point to cell C9 again. Tap the Delete key to remove the formula currently in cell C9. **This is a really important DELETE**, since what we'll explain below won't work correctly if you do not delete the formula in cell C9.

## **Functions**

There are a number of **formulas built into Excel**, like Sum. These formulas are called **Functions**. Below the Menu Bar (see **right**) you will see a "sigma"  $\Sigma$  with a **small down triangle** to the **right** of the sigma (see **arrow on diagram** to the **right**). Click on the **down triangle**. The drop down menu that you see on the right will appear. Move down to More Functions and **click-on More Functions**.



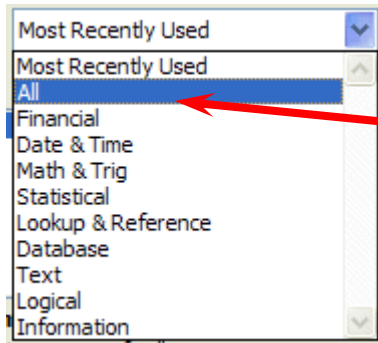
**Two menu screens** will now appear at the same time. An "Office Assistant" will appear (see **image on left of next page**) and you can ask it **questions** (the little assistant may be a paper clip or just about anything). The **Insert Function menu screen** will also appear (see **image on right of next page**). The two menu screens work together to assist you when you are using functions.



Let's work with the **Insert Function** menu screen. Click on the **small down arrow** to the **right of Or select a category:** (see **arrow** at left).

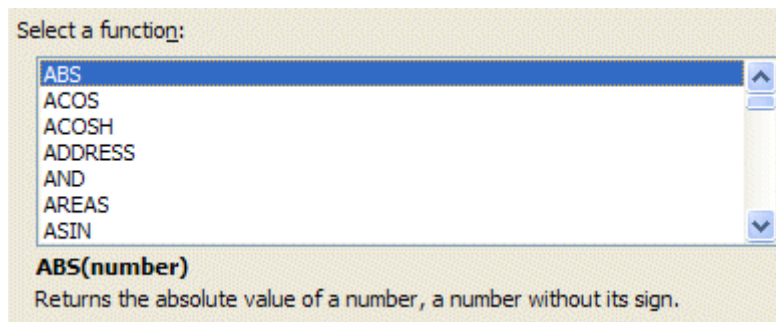
In the drop down menu that appears you can see that there are all kinds of formulas (functions) that come with Excel spreadsheet (e.g. statistical, mathematical, financial, etc.). Instead of having to go to math, financial, or statistical tables in a book, you can enter data from your spreadsheet into the formulas and receive answers.

This is a really great, timesaving feature. We'll now show you how to use the Help features of Excel 2003 to work with and understand these functions.



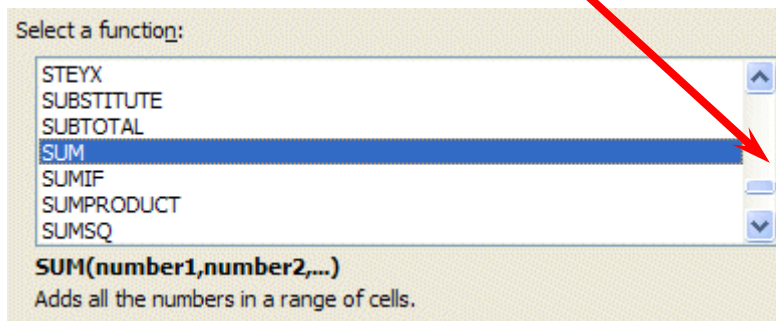
Click-on **All** in the **drop down menu**.

The **Select a function menu** will look like the **image below**.



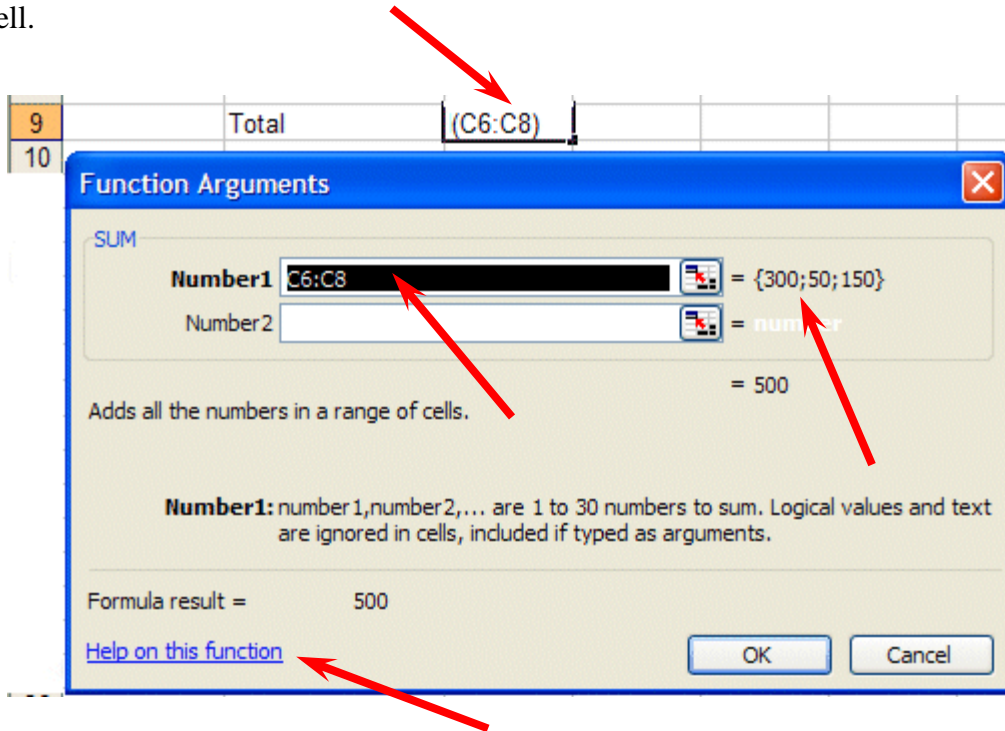
Look at all the functions (formulas)! We'll just go through how to use the addition formula (SUM) in this tutorial. If you need these formulas in the future, you'll know they're here.

Use the **elevator bar** on the **right** side of the **Select a function menu** screen to **move down** the list until you see **SUM**. **Click-on SUM**.



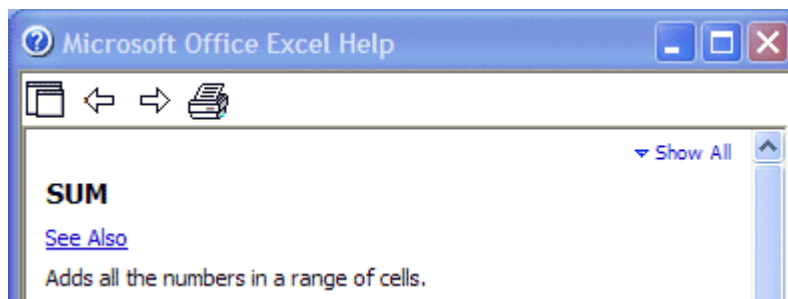
Then **click-on OK**.

**Remember**, you **clicked**-on Cell **C9** – which was “empty” because you deleted the formula in that cell.



When you **click**-on **OK**, the **Function Arguments** menu screen (**above**) will **appear**. If you **look** at the **top of the screen** in the **SUM** area, you’ll **see** that Excel 2003 has “**guessed**” that you desire to **add** the **numbers above cell C9** – where you clicked in your spreadsheet. Smart Excel! **Notice** that it indicates that **cells C6:C8** will be added (sum cells C6 through C8 – the colon (:) means “through.” It also indicates the numbers in cells C6, C7 and C8 and give you the sum  $\{300;50;150\} = 500$  (right arrow above).

But it’s a little unclear how Excel did this. The Help in Excel Functions is excellent. So, to see how this SUM equation works, we’ll go to Help. To do this, **click**-on **Help on this function** in the lower left corner of the screen (see **lower left arrow above**).



On the right side of your screen you will **see** a **Microsoft Office Excel Help window** appear (**similar** to the one **above**) that will show you **how to use this SUM function** (or any function).

One of the really **neat** things about these Help windows is that there are **examples** for each function. We **moved down** the **SUM help screen** using the **elevator bar** on the **right** of the **help screen**. The **bottom** of the screen **looks like** the **image** at the **top of the next page**. Spend a few minutes looking at the SUM Help window and notice all of the features.

**Example**  
The example may be easier to understand if you copy it to a blank worksheet.

▶ How?

A
<b>1 Data</b>
<b>2</b> -5
<b>3</b> 15
<b>4</b> 30
<b>5</b> '5
<b>6</b> TRUE

Formula	Description (Result)
=SUM(3, 2)	Adds 3 and 2 (5)
=SUM("5", 15, TRUE)	Adds 5, 15 and 1, because the text values are translated into numbers, and the logical value TRUE is translated into the number 1 (21)
=SUM(A2:A4)	Adds the first three numbers in the column above (40)
=SUM(A2:A4, 15)	Adds the first three numbers in the column above, and 15 (55)
=SUM(A5,A6, 2)	Adds the values in the last two rows above, and 2. Because nonnumeric values in references are not translated, the values in the column above are ignored (2)

The **bottom** of the **SUM help screen** **looks like** the **image** on the **left**. **Notice** that it gives you **examples** from a small spreadsheet that has data in cells A1 through A6. It uses these numbers in the examples at the bottom of the help screen.

When you have reviewed all of the help you care to see, **carefully click-on** the **X** at the **upper right corner** of the **Microsoft Office Excel Help blue bar** to **close** the **Microsoft Excel Help window**. **If you accidentally close the spreadsheet, simply reply yes to Save, and then re-open the spreadsheet as you did on pages 10 & 11.**

The **Function Arguments** menu screen will still be on the screen.

9	Total	(C6:C8)
10		

**Function Arguments**

SUM

Number1: C6:C8 = {300;50;150}

Number2: = number

= 500

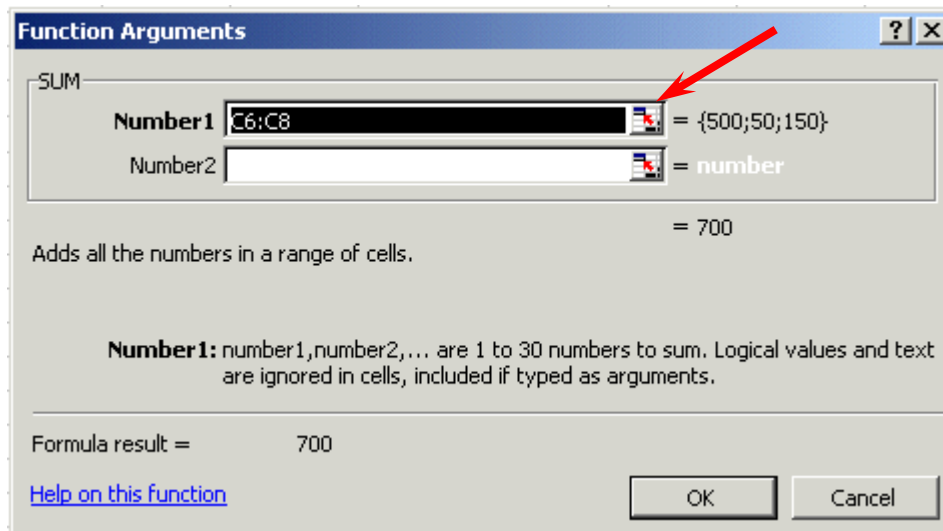
Adds all the numbers in a range of cells.

**Number1:** number1,number2,... are 1 to 30 numbers to sum. Logical values and text are ignored in cells, included if typed as arguments.

Formula result = 500

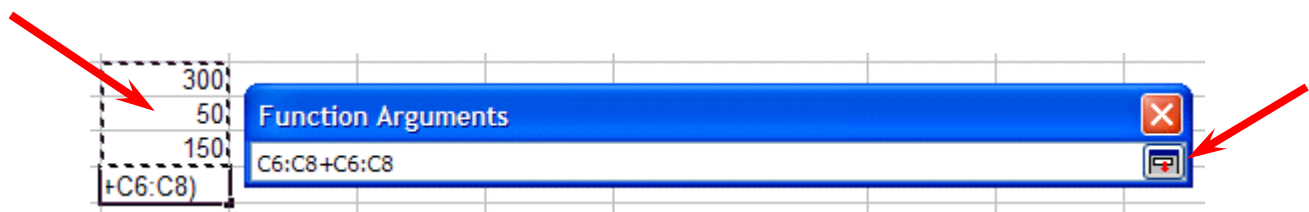
[Help on this function](#) OK Cancel

If the **Office Assistant** is **still on the screen** simply point to it and **click** the **RIGHT** mouse button. A pop-up **menu** will appear. **Click-on Hide**. This will put the Assistant away until we need it again



As you can see, in the area to the right of **Number 1**, the “Wizard” has “**guessed**” that you want to add the numbers in the range **C6 to C8**. Now that you are becoming proficient with Excel, we’ll try something special. **Carefully, point** to some “**plain part,**” in the **gray area above**. **Click** and **hold down** the **left** mouse button, and **drag** the above **SUM box “away”** so that you can see your **numbers in C column cells**. When you have done this, release the mouse button. Now **click-on** the “**small box**” on the **right edge** of the **Number 1 area** (see arrow above). It has a little **red arrow** in it.

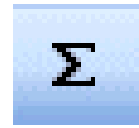
The below **Function Arguments** window will appear.



**Highlight** cells **C6 to C8** in the spreadsheet (**click-on C6, hold down the left mouse button, and drag until the three cells are highlighted**). A “**marquee**” will begin to **flash** around the cells, indicating they are highlighted (**left arrow above**). The **Function Arguments** area will appear as above. Now **click-on** the **small button** on the **right** of the cell (see **right arrow above**). The **numbers** will show in the area to the **right** of **Number 1**. Now, **click-on OK** at the **bottom** of the **Function Arguments** menu screen. You’ll see that the **SUM formula** [=SUM(C6:C8)] shows in the **formula area at the top** of the screen. This is a really handy method to highlight a “group” of numbers you want to add.

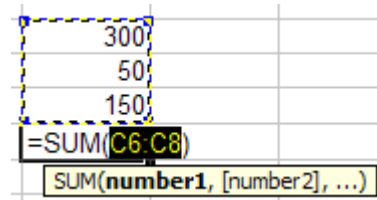
## AutoSum METHOD - $\Sigma$

Since we add numbers more than any other operation in spreadsheets, Excel spreadsheet has an additional feature - **Auto Sum**. Move to cell **C9** again and tap the **delete** key to **erase** your last formula. Now **look** at the **upper area** of the **screen**, just below the menu bar, for a  $\Sigma$  (summation) symbol **button**.



**Point to it and click with the left mouse button. WOW !!**

**Automatic addition!!** Notice that the **cells**, you'd logically desire to add, have a **marquee** around them and that the **SUM** function is displayed in cell **C9**. You'll need to **confirm** that this is the **correct** formula. So, **tap** the **Enter** key and the SUM function will now be set in cell **C9**. Any time you want to add using this method just click-on the cell where you desire the total to be and click-on the  $\Sigma$ .



**This would be a good time to save your work.**

**PERIODICALLY SAVE AND REPLACE YOUR WORK IN CASE YOU LOOSE POWER TO YOUR COMPUTER**

**Now move to cell C17 and add the total Expenses in cells C13 to C16 - using each of the four methods.**

While you are **in** cell **C17**, go ahead and **place a line at the top of cell C17** using the format cells – border **method** that you learned on **Page 5**.

## **Subtraction**

In cell **A19** type-in **Net Income**. Next, **adjust the width of column A** (Page 6).

**Click-on cell C19.**

In cell **C19** we want to **subtract** ( - )the amount in for **Expenses** in cell **C17** from the amount for **Income** in cell **C9**. This can be accomplished by using either the **Type-In Method** or **Point Method**. Go ahead and do this. Don't forget to **tap** the **Enter** key to **confirm** your **formula**.

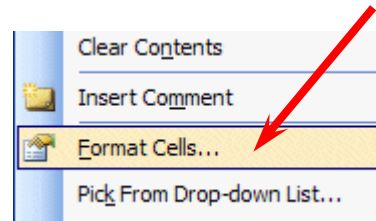
**The formula should look like =C9-C17**

## **More Cell Formatting**

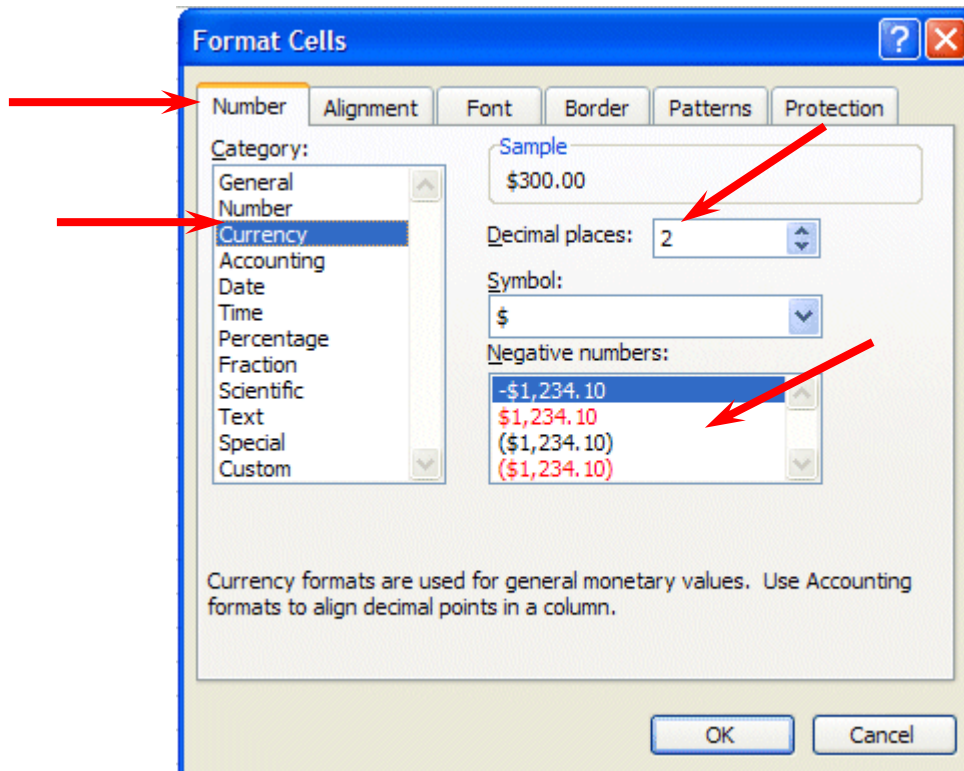
We want our **numbers** to **look better**. To do this we'll include **dollar signs** and **decimal points** in our **numbers**. This is done by **using the mouse**. **Point** to cell **C6**, **hold down the left mouse button** and **drag down slowly** to **highlight cells C6 through C19**. Your screen should **look like** the one at the **top of the next page**.

4			
5	INCOME		
6		Parents	500
7		Job	50
8		Investments	150
9		Total	700
10			
11			
12	EXPENSES		
13		Food	30
14		Beverages	50
15		Parties	150
16		Miscellaneous	70
17		Total	300
18			
19	Net Income		400
20			

Now **point anywhere** in the **highlighted area** and **click the RIGHT mouse button**. A pop-up menu will appear. **Click-on Format Cells** (like you have done before).



**Click-on the Number “Tab”** at the top of the **Format Cells** menu screen. Point to **Currency** and **click-on Currency**.



Notice **several things**. The **right side** shows the **number of decimal places**. The **2** is the default for cents. **We'll use 2**. Notice above the **Decimal Places** that there is a **sample** of what our **number will look like**. At the lower right it **shows how negative numbers can appear**, depending on **your choice**. When a negative number is calculated, it will appear with your choice. Now **click-on OK**. All the numbers now have \$. If you have large numbers that are **"too wide"** for the current **column width you will see some ##### in the cells** where these numbers are located. If this occurs in your spreadsheet, go ahead and **widen** the columns as you did previously (**Page 6**).

4			
5	INCOME		
6		Parents	\$500.00
7		Job	\$50.00
8		Investments	\$150.00
9		Total	\$700.00
10			
11			
12	EXPENSES		
13		Food	\$30.00
14		Beverages	\$50.00
15		Parties	\$150.00
16		Miscellaneous	\$70.00
17		Total	\$300.00
18			
19	Net Income		\$400.00
20			

Your spreadsheet numbers should now look like the one on the left.

## Division and Percent

Now move to cell **A21** and type in the word **Percent**. We're going to calculate a fun percentage to show you how division works and give you some more practice with numbers.

Now move to cell **C21**. Using either the **Type-In Method** or the **Point Method**, divide ( / ) the amount for **Income** in cell **C9** by the amount for **Expenses** in cell **C17**.

**[The formula should look like =C9/C17]**

This will give you a horrid number so why not put a **percent symbol** with it. Now we'll **repeat** what we did **above to format our \$\$\$**.

**Point** to cell **C21** and click the **RIGHT** mouse button. **Point** to **Format Cells**, then **click** the **Number tab**, then **click-on Percentage**. **Select zero ( 0 ) Decimal Places**. **Click OK**. Ta Da !!! a %.

## Copying

	A	B	C
1			Janie's & Gr
2			
3			SEPT
4			
5	INCOME		
6		Parents	\$500.00
7		Job	\$50.00
8		Investments	\$150.00
9		Total	\$700.00
10			
11			
12	EXPENSES		
13		Food	\$30.00
14		Beverages	\$50.00
15		Parties	\$150.00
16		Miscellaneous	\$70.00
17		Total	\$300.00
18			
19	Net Income		\$400.00
20			
21	Percent		233%

We could repeat what we did to this point and fill in the Income and Expenses for each of the remaining columns. There is a **simpler way** to do this. **Assuming** our income and expense **amounts** are about the **same**, throughout the months, we want to **copy** the **amounts** in **Column C** to **Columns D, E and F**. This will **require two "steps."**

**Move** your cursor to cell **C6**. First, we'll **highlight** what we want to **copy**; next we'll tell the **spreadsheet** where we want to **place** what we've **copied**. So, point to **C6**, **hold down** the **left mouse button** and **drag down** the **column** **until** cells **C6** through **C21** are high-lighted. Your **highlighted area** should **look like** the one on the **left**.

Now, point to **Edit** in the **Menu bar**. **Click** the **left** button. Point to **Copy** in the menu that appears. **Click** the **left** button. The menu disappears.

You will **notice** that once again, when you **highlight** an area, a **marquee** of running lights moves **around** the **copy area**. So, you'll know you highlighted the correct area (**image** on **right**).

Now we'll tell the program **where** to **copy** the information. Point to cell **D6**, **click** and **hold down** the **left mouse button** and **drag down** and **to the right** to cell **F21** (This will **highlight** **three columns** -- **OCT, NOV, DEC** -- to copy to.). When you have finished your highlighting, your screen should **look like** the one at the **top of the next page**.

\$300.00
\$50.00
\$150.00
\$500.00
\$30.00
\$50.00
\$150.00
\$70.00
\$300.00
\$200.00
167%

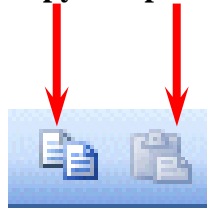
	A	B	C	D	E	F	G
1			Janie's & Greg's Budget				
2							
3			SEPT	OCT	NOV	DEC	M
4							
5	INCOME						
6		Parents	\$500.00				
7		Job	\$50.00				
8		Investments	\$150.00				
9		Total	\$700.00				
10							
11							
12	EXPENSES						
13		Food	\$30.00				
14		Beverages	\$50.00				
15		Parties	\$150.00				
16		Miscellaneous	\$70.00				
17		Total	\$300.00				
18							
19	Net Income		\$400.00				
20							
21	Percent		233%				
22							

Now point to **Edit** in the **Menu Bar** again and **click** the **left** button. Point to **Paste**. Click **left** button. **Wow !** All those numbers and dollar signs and formulas - **EVERYTHING** - was copied in a flash!! That sure saved us a lot of time.

INCOME					
	Parents	\$500.00	\$500.00	\$500.00	\$500.00
	Job	\$50.00	\$50.00	\$50.00	\$50.00
	Investments	\$150.00	\$150.00	\$150.00	\$150.00
	Total	\$700.00	\$700.00	\$700.00	\$700.00
EXPENSES					
	Food	\$30.00	\$30.00	\$30.00	\$30.00
	Beverages	\$50.00	\$50.00	\$50.00	\$50.00
	Parties	\$150.00	\$150.00	\$150.00	\$150.00
	Miscellaneous	\$70.00	\$70.00	\$70.00	\$70.00
	Total	\$300.00	\$300.00	\$300.00	\$300.00
Net Income		\$400.00	\$400.00	\$400.00	\$400.00
Percent		233%	233%	233%	233%

Click on a cell away from the area where the numbers are located. This will “turn-off” the highlight. Tap the Esc key and the marquee will also disappear.

Note: You can also utilize the copy and paste buttons in the button bar to do this if you desire.



Change a few numbers in each of the months in both the income and expense areas to see how the spreadsheet works. (This will make the graphs we’ll create more realistic when we create them later in the tutorial.)

**This would be a great time to Save again.**

Now for something to do on your own.

### Entering formulas in the Monthly Totals Column

Move to cell G6 under the title Monthly Totals. Choose one of the formulas you learned earlier to add each of the amounts in Parents for the four months. Use any of the four methods you desire. Your spreadsheet should look like the one to right, just before you copy the formulas.

F	G
DEC	MONTHLY TOTALS
\$300.00	\$1,200.00
\$50.00	
\$150.00	
\$500.00	
\$30.00	
\$50.00	
\$150.00	
\$70.00	
\$300.00	
\$200.00	

MONTHLY TOTALS
\$1,200.00
\$200.00
\$600.00
\$2,000.00
\$0.00
\$0.00
\$0.00
\$120.00
\$200.00
\$600.00
\$280.00
\$1,200.00
\$0.00
\$800.00

After you have completed your formula copy it to cells G7 through G19. You will see some "stuff (zeroes)" in cells G10, 11, 12, and 18. This is because there was "nothing there" to add. So, go in and clean-up these cells by deleting the zeros in these cells.

Next, go to cells G9 and G17 and underline like you did before (Page 5).

## Copying Percentage Formula

Notice that we **didn't copy** the **percentage** formula when we started this last copying effort. If we had copied a SUM formula, it would have added the four percentages. We don't want the sum of the percentages. We **want a percentage** of just the Monthly Totals. So, we need to copy this percentage separately. Now, **copy** the **percentage** formula in cell **F21** to cell **G21**. Now put a \$ in cells **G6 through G19** if you need to, and a % in **G21**. Your **spreadsheet column G** should **look something like** the image on the **right**

MONTHLY TOTALS
\$1,500.00
\$200.00
\$750.00
\$2,450.00
\$380.00
\$200.00
\$655.00
\$310.00
\$1,545.00
\$905.00
159%

**This would be a great time to Save again.**

## Absoluting (and multiplication)

There are times, when we are working with a spreadsheet, that we **do not want** a cell to **"roll" to the next column** when we use the **copy** feature of the spreadsheet – like it did in our last copying exercise. To **stop** the **cells** from **"rolling"** we utilize something called **absoluting**. The following is an illustration of absoluting.

Go to cell **A23** and type-in **Number**. Go to cell **A25** and type-in **Result**.

Go to cell **C23** and type in a **2** – and **tap** the **Enter** key.

We'll now **create a formula** to multiply our **number** times **Net Income**. You may use either the **Type-in** or **Point** method. Go to cell **C25**, and type-in a formula to **multiply cell C23 times cell C19**.

The formula should look like: **=C23\*C19**

The result in **C25** should be **two times the net income in cell C19**.

Now **copy** the formula in cell **C25** to cells **D25, E25, F25 and G25**. Your row 25 should look similar to the one below.

25	Result		\$460.00	\$0.00	\$0.00	\$0.00	\$0.00
----	--------	--	----------	--------	--------	--------	--------

**Uh Oh!!! Where did all of those "0's" come from?**

**Point** to each of the cells **D25, E25, F25 and G25**. Notice, as you click on each cell and look at the screen, how **C23** (the cell with the 2) "rolled" and became **D23, E23, F23 and G23** (which are blank - this caused the "0's"). A blank times a number is a "0." We want the 2 to be in each formula and not to "roll".

To do this we utilize something called **Absoluting** or **Anchoring**.

**Go back to cell C25**. Now we'll enter the formula again, but a little differently (to anchor the 2).

**Type-in** a **=C23** (or you could type = and point to C23). **NOW, tap the F4 key**. Notice, in the **Edit bar** at the top of the screen, that the **=C23** changes to: **=\$C\$23**. (This tells you that cell **C23** is **absoluted** or **anchored**. The "\$'s" indicate the **absoluting**.) Now **finish the formula** by typing in or pointing **\*C17** as before. Tap **Enter**.

The formula should look like: **=\$C\$23\*C19**

Now **copy** the **formula** in cell **C25** to cells **D25, E25, F25 and G25** again. Your row 25 should look similar to the image below.

25	Result		\$460.00	\$630.00	\$560.00	\$160.00	\$1,810.00
----	--------	--	----------	----------	----------	----------	------------

The numbers should now be **correct**. Point to cells **D25, E25, F25 and G25** (like you did before). You will notice the "\$'s" have **copied** the **=\$C\$23** to **each cell (absoluting)** and the Net Income figures have rolled as they should. Absoluting is something you should know and understand.

**Pause and reflect** -- Look at all you have accomplished. If you want go in and change some more numbers or change the income and expense titles to something you feel is more fun or appropriate, please do so.

**This would be a great time to Save again.**

The next important lesson is to learn how to **print**. This done with a few easy steps.

## Printing

First, **move to cell A1**.

All of the Windows **spreadsheets try to figure out what you want to print**. Sometimes they're **right**, sometimes they're **wrong**. So.....

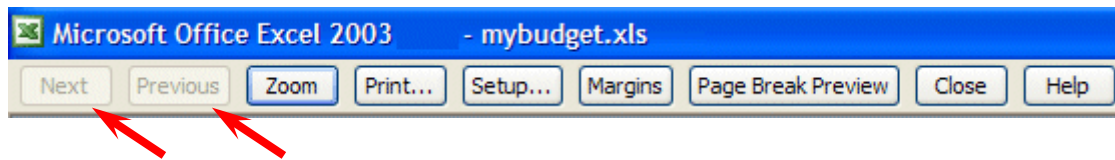
**The most important thing with printing is to tell the printer what to print.**

Unlike a word processor, you **may need to highlight** what you want to print. For the moment, we'll assume that Excel 2003 will "guess" correctly, and that you have not "clicked" somewhere that will cause a problem. If you do have problem, which we'll know in a second, we'll show you how to take care of the problem a bit later.

It's usually a good idea to **see what our printout will look like – before you print it**. First, we'll use a **Print Preview** to "see" what our spreadsheet looks like. To do this we'll **click-on the Print Preview Button in the Button Bar**. **Point to the Print Preview button and click on it.**



A **picture**, of what our **printout will look like**, appears on the **next page**.



At the **top** of the **Print Preview** screen you will see the **button bar above**. We'll use a number of the buttons on this bar to assist us with our printing.

**Notice** that the **Next** and **Previous** buttons at the **left end of the bar** are **not highlighted** with text – they are just gray. This **means** that the buttons are **not "active."** This **indicates** that we are **OK** with our spreadsheet – it is **all on one page**. If we saw that the Next button was active, this would mean that there are other pages to our spreadsheet. If you'll **look at the lower left corner** of the **Print Preview** screen you'll see: **Preview: Page 1 of 1**. This **confirms** that our spreadsheet is **on one page**. **If you do not see this "combination," we'll show you how to take care of it later.**

**If you do see this combination, click-on the Print button. Click-on OK in the Print menu screen that appears. Label this printout as: Default Spreadsheet Printout.**

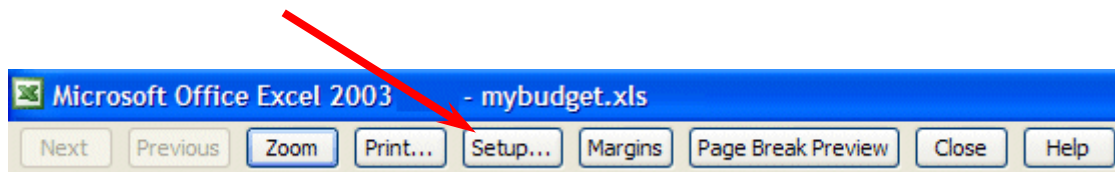
		Janie's & Greg's Budget				
		SEPT	OCT	NOV	DEC	MONTHLY TOTALS
<b>INCOME</b>						
	Parents	\$400.00	\$300.00	\$300.00	\$500.00	\$1,500.00
	Job	\$50.00	\$50.00	\$50.00	\$50.00	\$200.00
	Investments	\$150.00	\$150.00	\$300.00	\$150.00	\$750.00
	<b>Total</b>	<b>\$600.00</b>	<b>\$500.00</b>	<b>\$650.00</b>	<b>\$700.00</b>	<b>\$2,450.00</b>
<b>EXPENSES</b>						
	Food	\$50.00	\$30.00	\$100.00	\$200.00	\$380.00
	Beverages	\$50.00	\$50.00	\$50.00	\$50.00	\$200.00
	Parties	\$200.00	\$5.00	\$150.00	\$300.00	\$655.00
	Miscellaneous	\$70.00	\$100.00	\$70.00	\$70.00	\$310.00
	<b>Total</b>	<b>\$370.00</b>	<b>\$185.00</b>	<b>\$370.00</b>	<b>\$620.00</b>	<b>\$1,545.00</b>
	<b>Net Income</b>	<b>\$230.00</b>	<b>\$315.00</b>	<b>\$280.00</b>	<b>\$80.00</b>	<b>\$905.00</b>
	<b>Percent</b>	<b>162%</b>	<b>270%</b>	<b>176%</b>	<b>113%</b>	<b>159%</b>
	<b>Number</b>	<b>2</b>				
	<b>Result</b>	<b>\$460.00</b>	<b>\$630.00</b>	<b>\$560.00</b>	<b>\$160.00</b>	<b>\$1,810.00</b>

Next, notice that an “image” of your spreadsheet appears below the button bar (above).

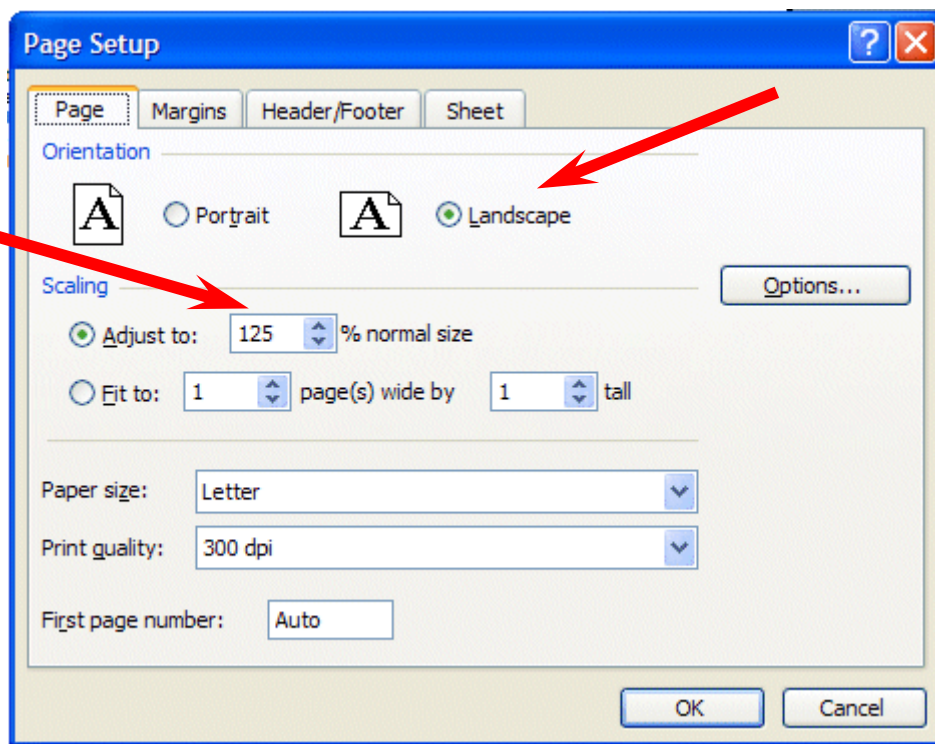
If you move your cursor over the spreadsheet, you’ll notice that the cursor changes from an arrow to a tiny magnifying glass. If you click the left mouse button, your magnifying glass will “zoom-in” on the exact spot where the magnifying glass is located. If you click-again, it will zoom-out. Try this a couple of time. It is a really handy feature.



Now click-on Setup in the top button bar.



The Page Setup menu screen at the top of the next page will appear.



Notice that the **Page Setup** menu screen **indicates** that you are in **Portrait** view. Now we'll **enhance** the spreadsheet to make it a bit more presentable. In the **Orientation** area **click-in** the **small circle** in front of **Landscape** (see arrow above). The spreadsheet will now print on the page as indicated. Next, in the **Scaling** area, **click-in** the **box to the left of % normal size**. Using either the **“up/down”** arrows, or **by typing** in the information, change the size to **125**. Then click-on **OK**.

Your spreadsheet will now be larger and fill the paper more appropriately. **Click-on Print** and when this spreadsheet comes out of the printer label it: **landscape – enlarged to 125 %**.

Go ahead and **adjust** the “size” of your spreadsheet so that it becomes **too large** to fit on a single page. Set the **Scaling** to **200** and **click-on OK**. When you return to the Preview screen, the **Next** and **Previous** buttons at the top will now be **active**, and you'll see **1 of 3 or 4 pages** in the **lower left corner** of the screen. Go ahead and click-on the Next and Previous buttons to get a “feel” of the “size” of your spreadsheet. If you click-on Print (please don't do it), you'll get these 3 or 4 pages. If you made a mistake when you created the spreadsheet, you might see that you have 58 pages in your spreadsheet!

Now, **click-in** the **small circle** to the left of **Fit 1 page(s) wide by 1 tall** in the **Scaling** area and make sure that **1 page** is set. Excel 2003 will now **return** your spreadsheet to **one** page. Try other things here. Work with the **Margins, Header/ Footer, and Sheet** tabs at the top of the Page Setup menu screen. Any time you desire to print, go ahead and do so. This will give you a feel for how the spreadsheets will print. When you are finished, simply click-on **Close** and you will return to your spreadsheet.

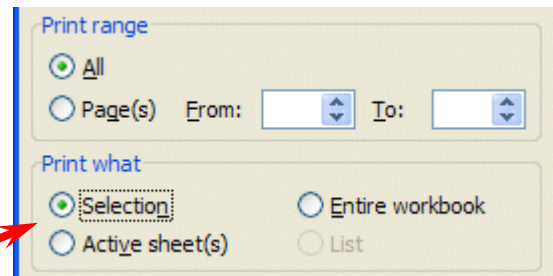
Many folks ask how to **center a spreadsheet on the page**. This feature is located in **Margins** at the bottom of the Margins screen. Simply click-on Margins at the top of the Preview screen or

on the Margins tab when you are in the Page Setup screen.

Many folks also ask about how to place **gridlines** and **show the row and column headings** (A, B, C and 1, 2, 3) in their spreadsheet printouts. This feature is located on the Sheet tab in the Setup screen menu.

## Cure for the problem – if you have too many spreadsheet pages.

Simply **click-on cell A1** and **highlight** your spreadsheet down **through cell G25**. This time however, **after you've highlighted A1 through G25, click-on File in the Menu Bar** and then **click-on Print**. In the **lower left corner** of the **Print menu screen** you will see an **area that looks like the image on the right**. **Click-in the small circle to the left of**



**Selection**. This indicates to Excel that you only want to print the area you've highlighted. **Click OK**. Only the section that you've highlighted will print. **You can still modify your spreadsheet if you desire**. Once you've clicked by Selection, you may click-on the Preview button in the Print menu screen and you will see a preview of your highlighted area. Follow the instructions above to modify as you desire.

Now we'll call it a day and close Excel 2003 for Windows. First, let's **save** our work one more time. If you **forget**, Excel will **remind you to do it**. What a nice program!!

Point to the **Edit** menu and click the left button. Point to **Exit**. **Click the left** button. That's it for now.

When you return, we'll retrieve our work and do some really neat graphics. To open your spreadsheet again, follow the instructions on Pages 10 and 11.

## Graphics

This will be a lot of **fun**. We are now going to turn your spreadsheet numbers into graphics -- bar charts, pie charts, etc. This will greatly assist you when you display and explain your work.

**Before** we do this there are a couple of **essential steps**. First we have to **tell** an Excel 2003 "Wizard" **what we want to chart** and then **were** we want the chart to go.

First: in cell **B9** **type-in Income** (to **replace** the word **Total**). Next, **type-in Expenses** in cell **B17** for the same reason.

## VERY IMPORTANT.....

Something new.... **Hold down the left mouse button** and **highlight cells B3 to F3**. Next

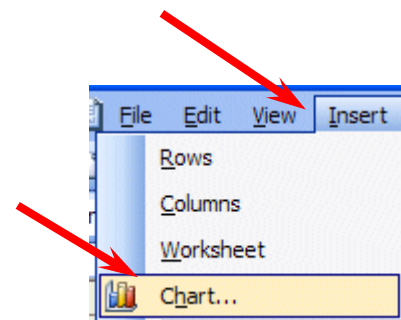
**HOLD DOWN** the **Ctrl** key at the **bottom of the keyboard**, and **while you are holding it down, highlight cells B9 through F9**. You will now see two "ranges" highlighted. **Hold down the Ctrl again, and highlight cells B17 through F17**. These three ranges will make up your chart. The x-axis will be made up of B4 - F4. And, the two sets of bars (series) will make-up Income and Expense. When you complete the above instructions, your screen should look like the one below.

	A	B	C	D	E	F
1			Janie's & Greg's Budget			
2						
3			SEPT	OCT	NOV	DEC
4						
5	INCOME					
6		Parents	\$400.00	\$300.00	\$300.00	\$500.00
7		Job	\$50.00	\$50.00	\$50.00	\$50.00
8		Investments	\$150.00	\$150.00	\$300.00	\$150.00
9		Income	\$600.00	\$500.00	\$650.00	\$700.00
10						
11						
12	EXPENSES					
13		Food	\$50.00	\$30.00	\$100.00	\$200.00
14		Beverages	\$50.00	\$50.00	\$50.00	\$50.00
15		Parties	\$200.00	\$5.00	\$150.00	\$300.00
16		Miscellaneous	\$70.00	\$100.00	\$70.00	\$70.00
17		Expenses	\$370.00	\$185.00	\$370.00	\$620.00
18						

If your spreadsheet **does not look exactly** like the one above, please **try again**. This is a bit tricky and it often takes even experienced spreadsheet folks a couple of "tries" to get the highlighting just right.

We'll use the **easiest method** for our first chart (graph).

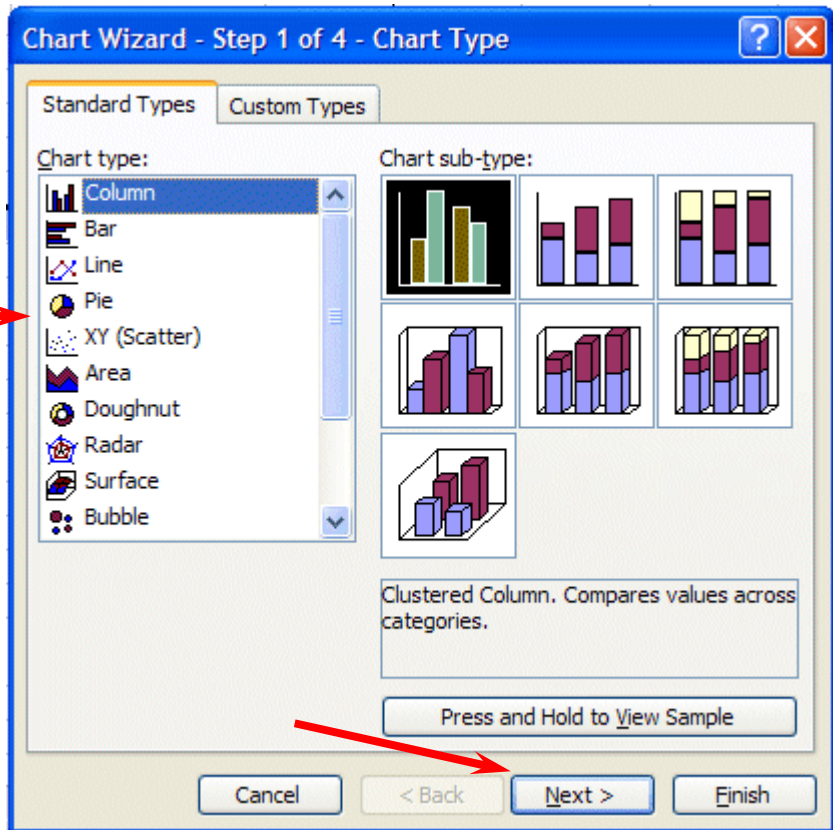
In the **Menu Bar** click-on to **Insert**, then click on **Chart**. The **Chart Wizard – Step 1 of 4 Chart Type** menu screen will appear (like the one at the **top of the next page**).



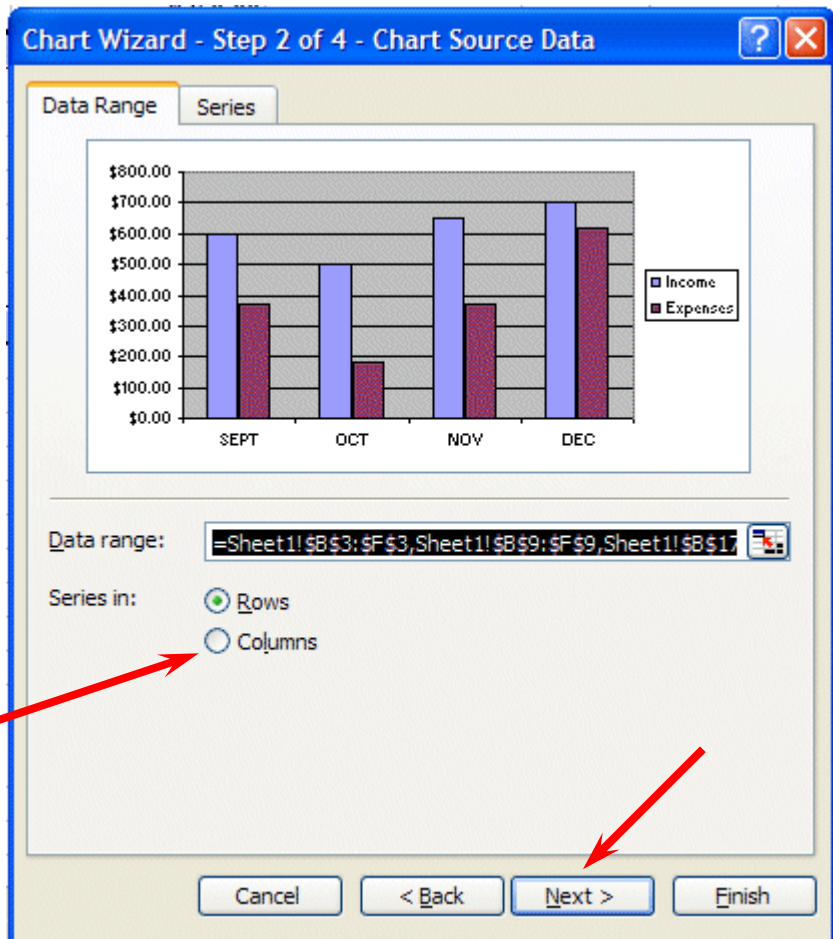
The **Chart Wizard** shows the various types of charts in **Chart type:** (on the **left** side of the menu screen).

**Examples** of the selected chart type show on the **right** under **Chart sub-type**. We'll stay with **Column** and the chart selected for now.

**Click Next.**

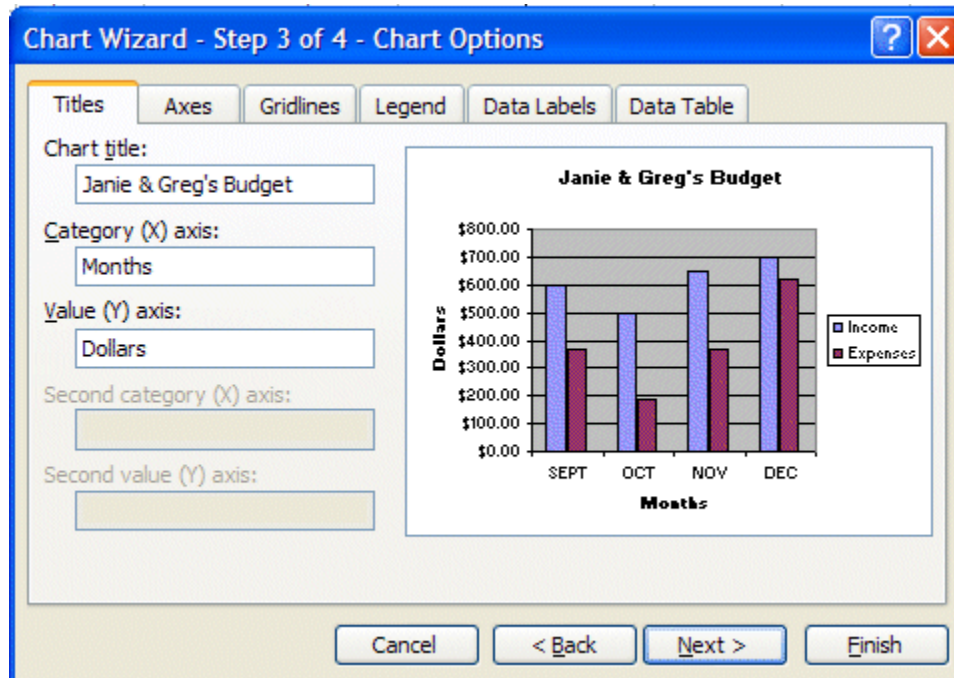


The **Step 2** portion of the menu appears (as **shown** on the **right**).

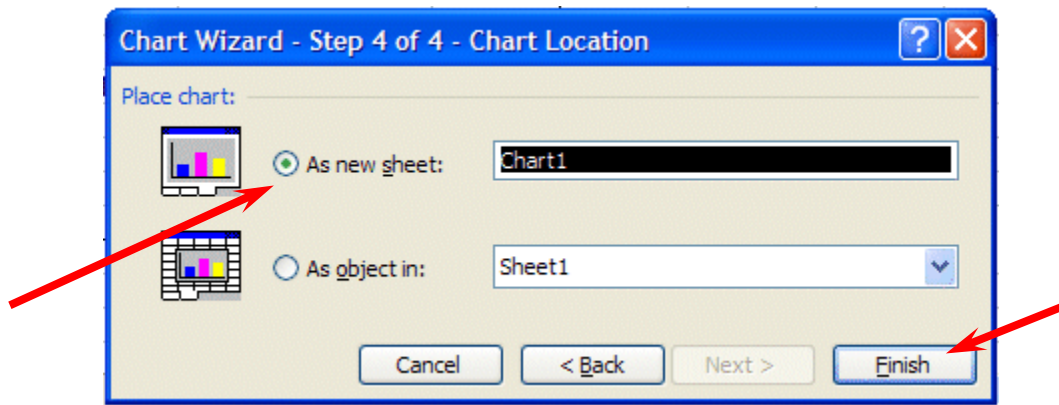


The **Wizard** (on the **last** page) shows you **what your**

**chart will look like.** The “ranges” you selected originally are shown in the **Data range:** area. **If you did not highlight as indicated, your chart won't "look right."** Your chart should look like the example above. If you click-on the **Series tab** at the top of the **Wizard** screen, you'll see a new Wizard screen that shows you where the Income and Expenses series came from. **Click-back** on the **Data range tab** at the top. Now **click-in** the **little circle** in front of **Columns**. The Wizard will **indicate** that the chart has been “rotated” **90 degrees** and thus the axis has changed. This is often called a “pivot.” **Click-back** in the **small circle** in front of **Rows**. Click **Next** again.



The Chart Wizard Step 3 of 4 menu will appear: **Titles** (similar to the image above). **Click-in** the **blank area** under **Chart Title**. A flashing cursor will appear. **Type-in your name with an apostrophe (‘) s and the word Budget (ex. Janie's Budget)**. Now, **click-in** the **area** under **Category (X) axis:** and type in **Months**. Next, **click-in** the **area** under **Value (Y) axis:** and type in **Dollars**. You probably noticed that as you entered these titles, the chart in the area on the right of the Wizard changed to give you an “instant” preview of your final chart. You will also notice that there are several **tabs** at the **top** of the Wizard. **Click-on each** of the **tabs** and see what “they do”. Notice how some change axis and put in grid lines. The **legend** is the **small box** on the **right**, which **indicates** what the **colors** of the “bars” represent (Income and Expenses). **Click Next** one last time. The **Step 4 page** of the Wizard will now **appear** (image at the **top** of the **next page**)



This is the final Wizard page. You'll notice that it asks you **where** you want to **put** your **chart**. Since this is your first chart, it is best if you select **As a new sheet:** (see **arrow above**). This will put your chart on a **new tab** called **Chart 1**. Now click-on **Finish**, You'll see that you chart has a tab of its own at the bottom of the screen, and "fills" an entire screen.

**WOW!!!!** There's your chart. Again, notice that Excel created a **new tab** at the bottom of the spreadsheet that says **Chart 1**. **Any time the numbers change on Sheet 1, the bars in Chart 1 will reflect the change automatically!** Click on the **Sheet 1** and **Chart 1** tabs to get the feel of going back and forth between the data and the chart. After you make your changes, **click** on the **Chart 1** tab and you'll see how the chart has changed.

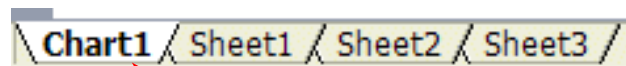
**Now it would be a good time to Save again.**

In **Excel 2003**, when you save your **spreadsheet**, you also save your **graph**. Your graph is saved wherever you are working in the graph.

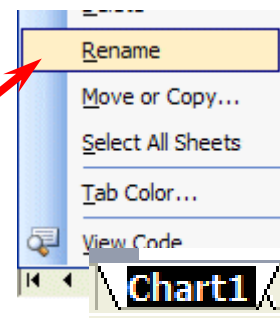
## Changing (Renaming) Excel 2003 Tabs

If you would like to have logical names for your Excel 2003 spreadsheet tabs – rather than Sheet 1 and Chart 1, we'll now show you how to do this.

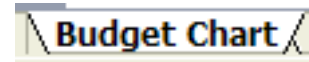
At the **bottom** of your **spreadsheet** you will see you **tabs** (like the **image** on the **right**). To change the name of one of the tabs, **place your cursor over a tab** and **click** the **RIGHT** mouse button. We'll change the name of Chart 1 first.



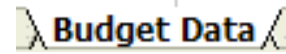
When you click the Right mouse button the drop down menu screen to the right will appear. **Choose Rename**. When you choose Rename, the **Chart 1** tab will "turn black" – like the **image** on the **right**. As soon as you see this, type in the name you want for your chart. We typed in **Budget Chart**.



As soon as we began typing, the tab name changed. When we finished, our chart tab looked like the one on the right.



Go ahead and name your Sheet 1 tab something more logical than Sheet 1. We named our Sheet 1 tab Budget Data.



**Note:** We are about to do some things which could **mess-up** your graph. **If you do get "messed-up"** in the graph - **don't save again**. Simply **Close** the worksheet and **DON'T SAVE**. **Open** the worksheet again and you will be in a nice neat graph where you can experiment some more.

Let's really get "Snazzzyy".

**Click on the Budget Chart (or whatever you named it) tab.**

**Click-once on your title** at the top. A "box" with **little squares** on the corners will appear. These are "sizing grabbers". When you move the cursor over them you will notice that the cursor changes to small, directional arrows. If you click, hold down the left mouse button, and drag when you see these arrows, you will notice that the Title Box gets larger or smaller as you drag. Next, **click-on the name of your budget** until you get a **flashing cursor** somewhere in the title. With the **arrow movement keys**, or **mouse**, **move** to the **end of the title**, to the right of the "t" in Budget, and tap **Enter**. Type in **Fall 2003**. Now **click** at the beginning of your name, hold down the left mouse button, and drag to **highlight the first line of the budget title with your name in it**. Keeping the cursor on the dark area, **click the right mouse button**. **Click-on Format Chart Title**.

A Format Chart Title menu screen, like the one on the right, should appear.

Instructions on how to change the font appear at the top of the next page.

