

# Advanced Excel for Windows

Academic  
Computing  
Support



Information Technology Services  
Tennessee Technological University  
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Version: 2000

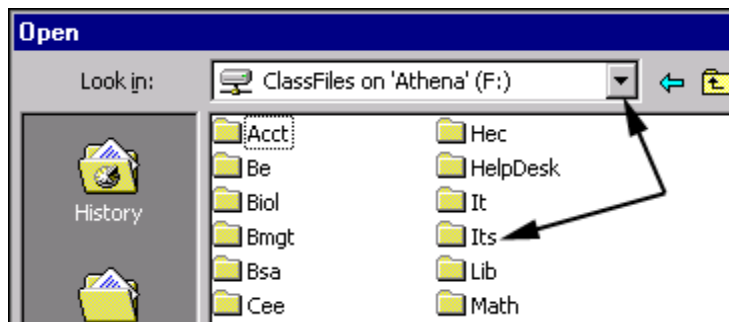
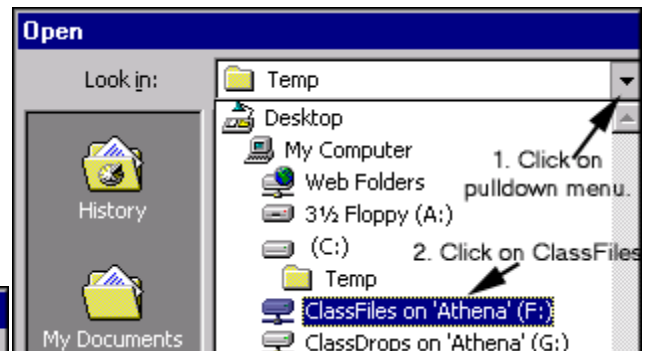
## 1. Opening Excel for Windows

In the PC labs, from the **Start** menu: Select **Programs** → **MSOffice 2000** → **Microsoft Excel**  
Otherwise, from the **Start** menu: Select **Programs** → **Microsoft Excel**

## 2. Creating a Document

The Excel program opens with a blank spreadsheet. Close this and for this class, **open an existing file in the PC lab**:

- Select **File** → **Open**.
- From the pulldown menu, select **ClassFiles on 'Athena' (F:)**.
- Select the subdirectory **Its** → **Excel Class** → **Expenses.xls**
- Click the **Open** button.



You will see a spreadsheet that has been started, but not completed.

(See *Beginning Excel for Windows* for details on how a spreadsheet like this is created. Available on the web at

<http://www2.tntech.edu/its/pubs/>).

## 3. Adding Rows for a Title at the Top of the Document

To insert three rows for a title at the top of this document:

	A	B
1	Date	No.
2	1/1/2002	
3	1/2/2002	1231
4	1/2/2002	1232
5	1/2/2002	

- Click on the row header **1** and drag down to row header **3** to highlight rows 1 through 3.
- From the menu, select **Insert** → **Rows**.

Note the existing rows move down the page and three blank rows are inserted above row 1.

### 3. Adding Rows for a Title at the Top of the Document (cont.)

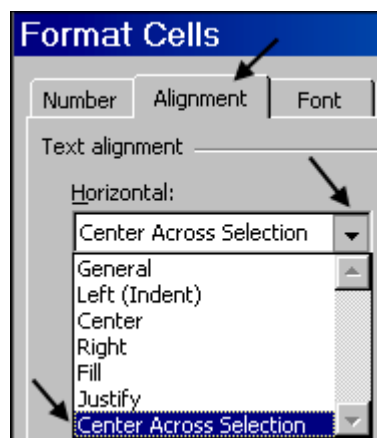
You can also insert rows or columns by **selecting the rows or columns** and **right-clicking**. Select **Insert** from the floating menu and the rows or columns will be inserted.

Add a title:

- Use **Ctrl + Home** or your mouse to move to the first cell, **A1**.
- Type: **American Travel Expenses**
- Move to cell **A2** and type a **single quote mark** to indicate that the information you will be typing should be considered to be text and not as a date.
- Type: **'January 2002**

To center a heading:

- Click into cell **A1** and drag across to cell **H2** to select.  
**Or** click into cell **A1**, hold the shift key down, then click into cell **H2**.
- From the menu, **Format** → **Cells**  
**Or right-click** and select **Format Cells**
- Click on the **Alignment** Tab
- Under **Horizontal**: click on the down arrow to see the menu.
- Select **Center Across Selection**
- Click **OK**.



### 4. Creating a Formula to Compute a Running Balance

To create a running balance:

- Click into cell **H5**.
- Note that since this is the beginning balance it must equal the amount listed in cell **F5**.
- To begin the formula type: **=**  
(or a plus sign)
- Next, use your arrow keys or mouse to move into cell **F5**
- Note that this cell's reference now appears in your formula: **=F5**
- Press **Enter** to enter the formula and move to the cell below (**H6**).

Consider what formula you will want in cell **H6** to get an accurate balance. You will want to add any credits from cell **F6** and subtract any debits in cell **G6** from your balance in cell **H5**. The final formula will be **=H5+F6-G6**

#### 4. Creating a Formula to Compute a Running Balance (cont.)

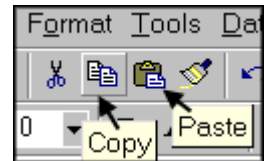
To most easily type this in:

- Type: **=**
- Use your arrow keys or mouse to move to cell **H5**
- Type **+**
- Move to cell **F6**
- Type **-**
- Move to cell **G6**
- Press **Enter**

F	G	H
<b>Credit</b>	<b>Debit</b>	<b>Balance</b>
2,254.65		2,254.65
		17.35 =H5+F6-G6
	26.72	

Note that the same formula will apply down the column with the next row of cells as the references. Excel will **automatically adjust** your formulas to reflect the change in row position as you copy down the column.

- Click on the cell **H6**
- Click on the **Copy** button or from the file menu select **Edit → Copy** or **right-click** and select **Copy**
- Click on the cell **H7**
- Use the scroll bar to move down in the spreadsheet.
- Hold the **shift** key down and click in cell **H38** to select the cells from H7 through H38
- Click on the **Paste** button or from the file menu, select **Edit → Paste** or **right-click** and select **Paste**



Click into several cells from H7 to H38 to see how the formula was adjusted in each row.

#### 5. Computing the Minimum and Maximum Balance

To create a formula for the minimum and maximum balances:

- Click into cell **H41** and type: **Min Balance:**
- Click into cell **H42** and type: **Max Balance:**

Expand the width of column H to accommodate this text.

- Move the mouse pointer to the right boundary of the column H header until it changes to a double headed arrow  $\leftrightarrow$  and drag.
- Or select the column by right-clicking in the header and selecting **Column Width**
- Or from the menu, **Format → Column → Width**. Then type a value, such as **12**.

Enter the formulas:

- Click into cell **I41** and type: **=min(**
- Click into cell **H5** and drag down through cell **H38**
- Press **Enter** and note that the final parenthesis in the formula is completed for you.
- Repeat these steps in cell **I42** for the maximum value formula which is: **=max(h5:h38)**

Min Balance:	=MIN(H5:H38)
Max Balance:	=MAX(H5:H38)

## 6. Using the If Function to Assign Expenses to Accounting Lines

To categorize your expenses, the **If** function can be helpful. This function allows you to set a condition for determining what the value of a cell should be. The general form of an **If** statement is: **=If(comparison statement, true action, false action)**

For example, if the category code in column E is **1**, then you would like that amount to be listed in column J under **Salary** expenses, but if it is **not 1**, then you would like to show no expense in column E. Consider cell **J5**: If **E5=1**, then you would like the value of cell J5 to be equal to the amount in G5, but if the value of E5 is not 1 (Salary), you would want the value of cell J5 to be zero. This can be written as **=If(E5=1,G5,0)**

Likewise, if the category code in column E is **2**, you want the expense to be listed under **General** expenses in column K and if the category code in column E is **3**, then the expense belongs under **Supplies** in column L. If a deposit has been made, then that amount should be listed under column M (**Income**).

Enter the formula into cell J5:

- Click into cell **J5**
- Type: **=IF(E5=1,G5,0)**
- Press **Enter** and compare your formula with that shown here. Correct any typos.

	J
4	Salary (1)
5	=IF(E5=1,G5,0)

*Tip: You can also enter this formula by clicking in to cell **J5**, typing **=IF(** then clicking into cell **E5**, typing **=1** then clicking into **G5**, typing **,0** and pressing **enter**.*

Repeat the appropriate formula for cells K5 (General), L5 (Supplies), and M5 (Income):

- Click into cell **K5** and type: **=IF(E5=2,G5,0)**
- Click into cell **L5** and type: **=IF(E5=3,G5,0)**

To type the comparison in M5, you will need to **enclose the category in quotes**, because it is text **"In"** and not a number as in the cases above. Also note that the value comes from cell **F5** in this case, *not G5* as in the other cells above.

- Click into cell **M5** and type: **=IF(E5="In",F5,0)**

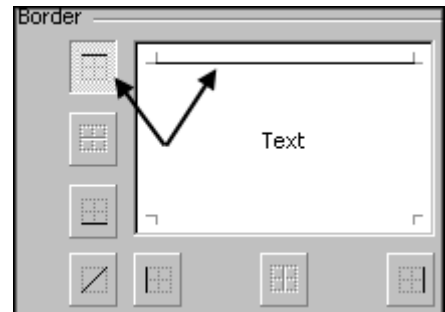
Use copy and paste to copy the formulas down each column:

- Select the cells **J5** through **M5**
- **Right-click** and select **Copy**
- Click on the cell **J6**
- Use the scroll bar to move down in the spreadsheet.
- Hold the **shift key** down and click in cell **M38** to select the cells from **J6** through **M38**
- **Right-click** and select **Paste**
- Press the **Escape key** to turn off the selection around the cell you copied from.
- Click into several cells and note how the formulas are copied and adjusted for each row.

## 7. Using the Sum Function to Total Expenses

To compute the total expenses under each category:

- Click into cell **J39** and **drag across** to select cells **K39 and M39**.
- **Right-click** in the highlighted region and select **Format Cells** from the floating menu **or** from the menu, select **Format → Cells**
- Select the **Border** tab
- Click on the **Top** border button to place a plain line across the top of these cells.



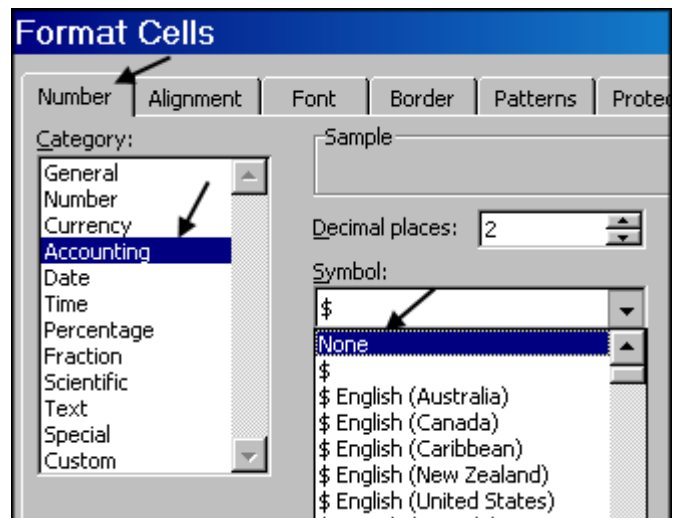
- Click in cell **J39**.
- Click on the **AutoSum** button.
- Note that the formula is correct. **=SUM(J5:J38)**
- Press **Enter**.
- Copy the formula from cell **J39** to cells **K39** through **M39** using **Copy** and **Paste**.



## 8. Formatting Cells

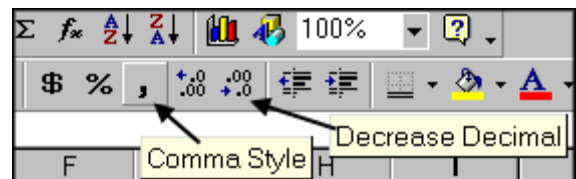
To format the cells:

- Click in cell **J5**
- Scroll down the page.
- Hold the **shift key**
- Click into cell **M39**
- **Right-click** and select **Format Cells**
- Select the **Number** tab
- Under *Category*: select **Accounting**
- Under *Symbol*: select **None**.
- Click **OK**.



This same formatting is available as a button in the toolbar.

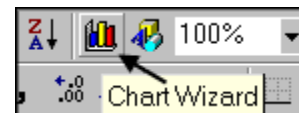
- Click on the **Comma Style** button
- Try out the other button formatting shortcuts including **\$** (accounting currency style), and **%** (automatically converts decimal numbers to percentages).
- You may also quickly *increase or decrease* the number of decimal points displayed by using the **Increase Decimal** or **Decrease Decimal** buttons.



## 9. Plotting the Balances

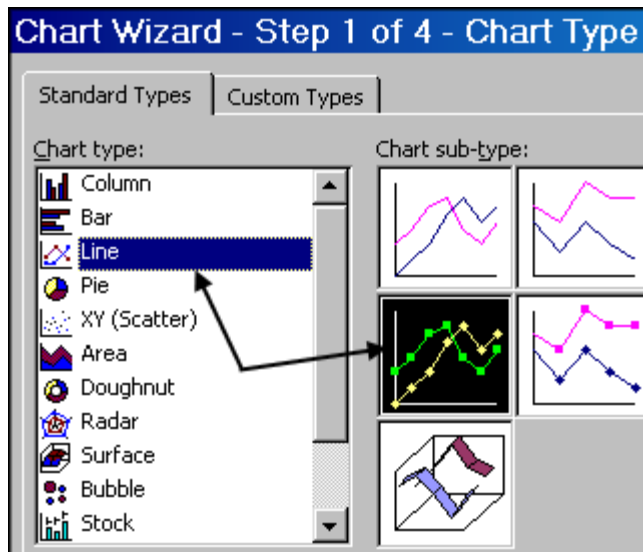
The Chart Wizard allows you to produce a chart or plot very quickly. First you need to select the numbers to be used in the chart.

- Click in cell **H5**
- Scroll down the page.
- Hold the **shift key** and click into cell **H38** to select the numbers to chart.
- Click on the **Chart Wizard** button or from the menu **Insert** → **Chart**



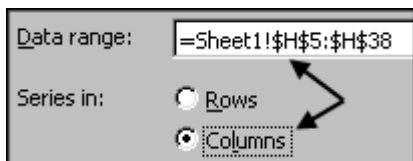
The Chart Wizard window opens with the first of four steps, selecting the **Chart Type**.

- Under Chart type: select **Line**
- Under Chart sub-type, select the **first style in the second row**.
- Click **Next**.



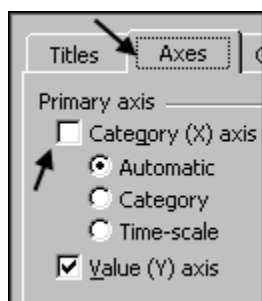
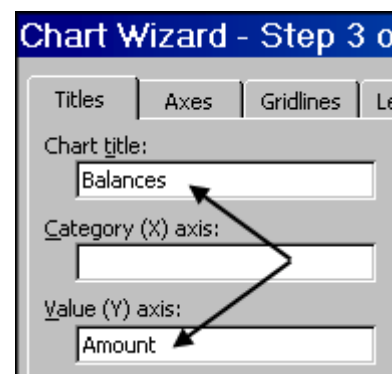
In Step 2:

- Look over the range of data to be graphed and click **Next**.



In Step 3:

- On the Titles tab, under **Chart Title:** type **Balances**
- Tab twice or use your mouse to move to the Value (Y) axis: and type **Amount**
- Note how the changes show up on the chart preview.



- Click on the **Axes** tab.
- Click to remove the check mark beside **Category (X) axis**. Note in the Chart preview that the the x axis labels are removed.
- Click on the **Legend** tab.
- Click to remove the **check mark** beside **Show Legend**.
- Click **Next**




## 9. Plotting the Balances (cont.)

In Step 4:


- To have the graph saved on the same sheet as your data, select **As object in: Sheet1**
- Click **Finish**



To move the chart to a location under the transaction data.

- Move the **floating chart toolbar** off of the chart.
- **Click** on the chart to select it and hold down as you drag it to a new location on the sheet. You should see a four directional arrow as you drag. 

To change the size of the resulting graph:

- **Click** on the chart to select it. You will see squares appear at each corner and in the center of each side when the chart is selected.
- Place your cursor over the bottom right corner of the chart until you see a double headed arrow. 
- Click and **drag** down to enlarge the graph.
- Click off the chart to deselect it.

## 10. Creating a Summary Sheet

Each **Excel** file (workbook) allows you to create multiple sheets for your information. In this exercise, we will create a summary for the month of January on another sheet.

To rename the sheets:



- **Double-click** on the *Sheet1* tab at the bottom and type **Transactions**
- **Double-click** on the *Sheet2* tab at the bottom and type **Summary**

Copy totals from the Transactions sheet to the Summary sheet:

- Click on the **Transactions** sheet tab and move to the top (**Ctrl + Home** or scroll).
- Right-click in cell **A1** and select **Copy**
- Click on the **Summary** sheet tab
- Right-click in cell **A1** and select **Paste**
- Click on the **Left** alignment button.

- Type **Salary** in cell **C3**.
- Type **General** in cell **C4**.
- Type **Supplies** in cell **C5**.

	C	D
3	Salary	9,808.44
4	General	2,236.42
5	Supplies	297.80
6		12,342.66

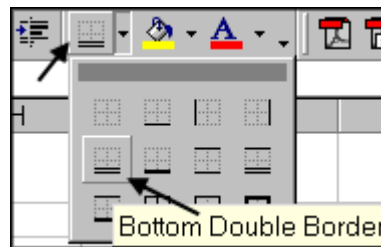
## 10. Creating a Summary Sheet (cont.)

- Click in cell **D3** and type =
- Click on the **Transactions** sheet tab.
- Click on cell **J39** and note the formula shown.
- Press **Enter**.
- You are returned to the **Summary** sheet in cell **D4**
- Move back into cell D3 and note the formula is **=Transactions!J39**

	C	D
3	Salary	9,808.44
4	General	2,236.42
5	Supplies	297.80
6		12,342.66

Repeat these steps so that the value of cell **D4** in the **Summary** sheet is based on **K39** in the **Transactions** sheet and the value of **D5** in the **Summary** sheet is based on **L39**. You should see the same values as shown above which are created from these formulas.

- Click in cell **D5**.
- Click on the **Borders** button.
- Click on the **Bottom Double Border** button.



- Click in **D6**.
- Click on the **Autosum** button
- Press **Enter** to create the sum of *Salary*, *General* and *Supply* expenses.

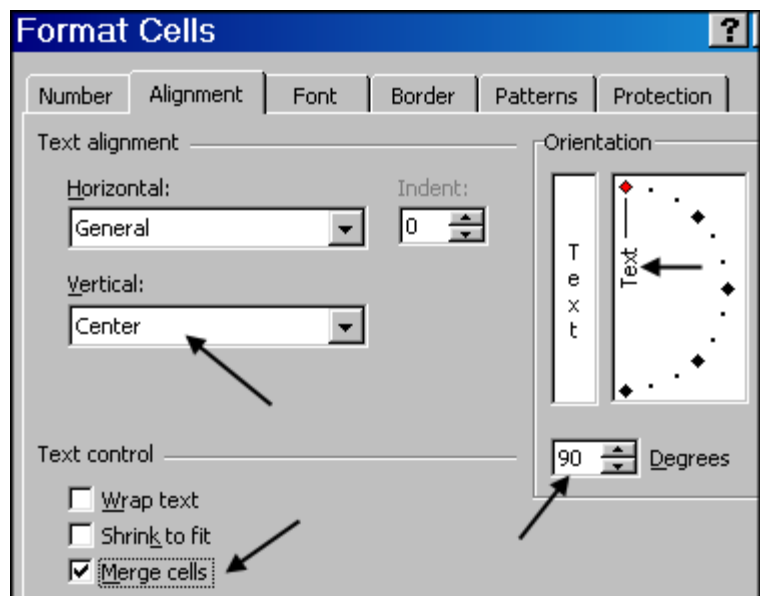
## 11. Creating a Heading across Cells and Rotated at 90 Degrees

- Click in cell **A20**.
- Type '**January 2002** (Be sure to include the single quote mark to indicate text).
- Select cells **A3** through **A20**.
- **Right-click** and select **Format Cells** from the floating menu
- Click on the **Alignment** tab.

- In the **Orientation** box, **click** and drag the word **Text** until it is oriented at **90 degrees**.

*Note that the value in the Degrees box changes as you move the Text orientation pointer.*

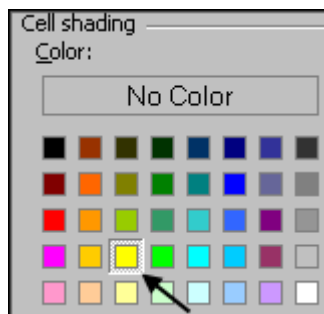
- Under **Text control**, select **Merge cells** to merge cells A3 through A20.
- Under **Text alignment**, select **Center** as the Vertical alignment.





### 11. Creating a Heading across Cells and Rotated at 90 Degrees (cont.)

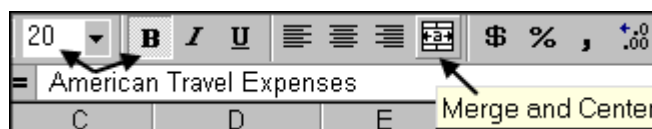
- Click on the **Font** tab.
- Select **Bold** as the Font style.
- Select **24** as the font Size.
  
- Click on the **Patterns** tab.
- Select a *medium yellow*.
- Click **OK**.



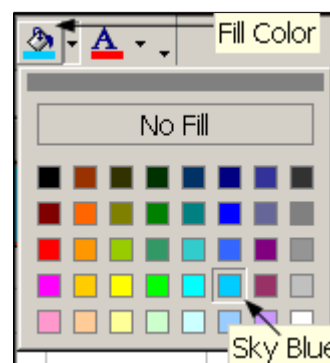
### 12. Formatting a Heading

To format the heading *American Travel Expenses*:

- Select cells **A1** through **F1**.
- Click on the **Merge and Center** button.
  
- Click on the **Bold** formatting button.
- Click on the **Font Size** down arrow and select **20** from the pulldown menu.
  
- Click on the **Fill Color** button to set a background color for the heading.
- Select *Sky Blue*.

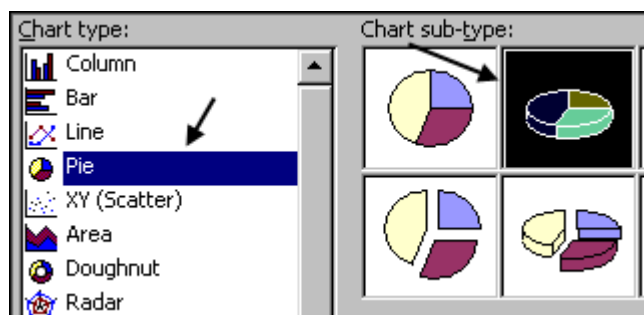
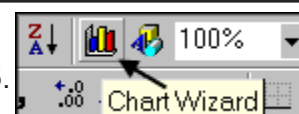


	A	B	C	D	E	F
1	<b>American Travel Expenses</b>					
2						
3	2		Salary	9,808.44		
4			General	2,236.42		
5			Supplies	297.80		
6				12,342.66		



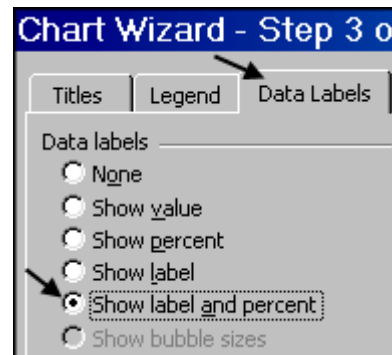
### 13. Creating a Pie Chart on the Summary Sheet

- Select the numbers to be used in the chart by highlighting **C3** to **D5**.
- Click on the **Chart Wizard** button.
- Under Chart type: select **Pie**.
- Under Chart sub-type, select the *second style*.
- Click **Next**.
- Click **Next**.
- Select the **Legend** tab.
- Click to deselect **Show Legend**.



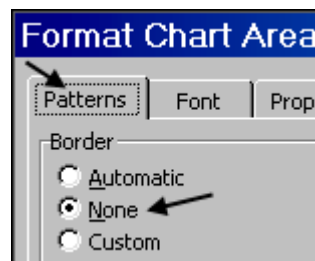
### 13. Creating a Pie Chart on the Summary Sheet (cont.)

- Select the **Data Labels** tab.
- Select **Show label and percent**.
- Click **Finish** to complete the chart and skip step 4, accepting the default to place the chart on the same sheet as your data.

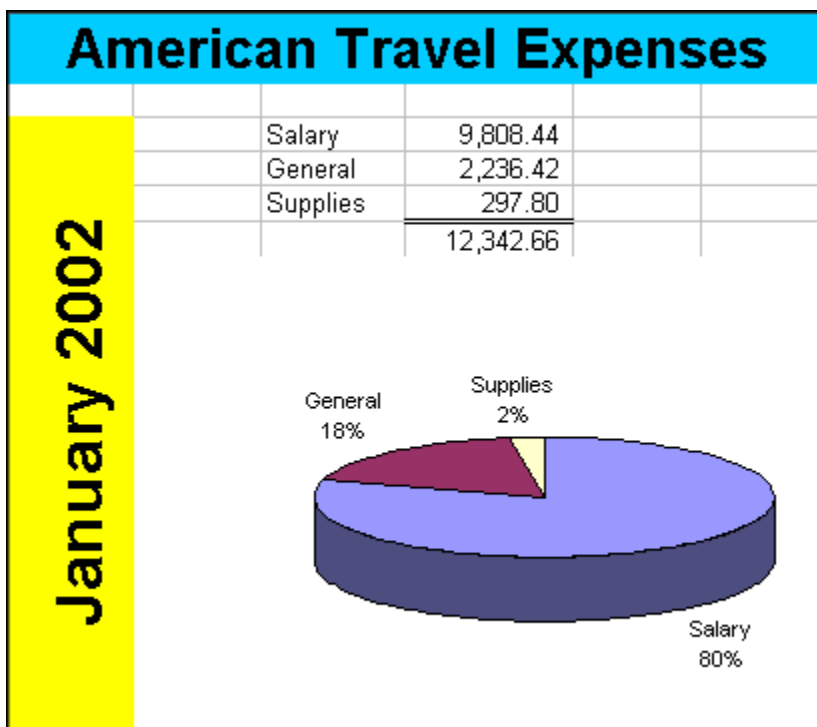


To move and resize the pie chart:

- **Click** on the pie chart to select it and hold down as you drag it to directly under **row 6**. You should see a four directional arrow as you drag. ↕
- With the pie chart still selected, place the cursor over the **bottom right corner** of the chart until a double headed arrow appears. ↔
- Click and **drag** down to cell **G23**.
- With the chart still selected, **right-click**.
- Select **Format Chart Area** from the floating menu.
- Under the **Patterns** tab, select  **None** for the Border.



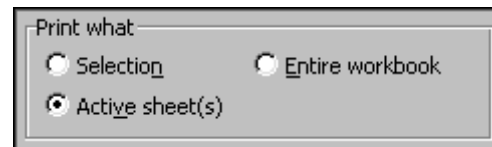
### 14. The Final Summary Sheet



## 15. Printing and Exiting

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- Select **File** → **Print**.
- Note that you may print the **Entire workbook**, a **Selection**, or the **Active** sheet.



- To print just the chart, select the chart by clicking on it near the edge and then select **File** → **Print**. Note that **Selected Chart** is indicated under *Print what*.

### To exit the program:

- Select **File** → **Exit** or use the close box **X** in the upper right corner.

*Note: If you have made a change and have not yet saved, at exit a prompt will ask you if you would like to save your changes.*

## 16. Getting Help

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One of the easiest ways to get help with Microsoft Excel is the comprehensive online help included with it, as shown below. Just click on **Help** → **Microsoft Excel Help**.

- You can also learn more about Excel at the Microsoft web site:  
<http://office.microsoft.com>
- Should you have a question that the online help does not address, please contact the **Microcomputer Support Office** at 372-6315 ([microsupport@tntech.edu](mailto:microsupport@tntech.edu)) or your college contact.
- Students may call the **Help Desk** at 372-3975 or get assistance in the PC labs in person.
- Handouts on using Excel and other programs are available on the web. From the **TTU home page** → **Computing** → **Documentation** (at <http://www2.tntech.edu/its/pubs/>).

### 17. Part of the Original Spreadsheet

	A	B	C	D	E	F	G	H	I
	Date	No.	Name	Item	Category	Credit	Debit	Balance	
1									
2	1/1/2002			Beginning Balance		2,254.65			
3	1/2/2002	1231	Office Max	Paper, pens, notebooks	3		17.35		
4	1/2/2002	1232	Walmart	Calculator, batteries	3		26.72		
5	1/2/2002			Deposit	In	1,275.00			
6	1/4/2002	1233	Suzanne Jones	weekly pay	1		546.15		
7	1/4/2002	1234	Jordan Grant	weekly pay	1		546.15		
8	1/4/2002	1235	Danny Dupree	weekly pay	1		937.50		
9	1/4/2002		IRS	weekly pay deduction	1		422.31		
10	1/7/2002			Deposit	In	300.00			
11	1/9/2002			Deposit	In	150.00			
12	1/10/2002			Deposit	In	2,500.00			
13	1/11/2002	1238	Herald Citizen	Sunday Ad	2		75.86		
14	1/11/2002	1239	Suzanne Jones	weekly pay	1		546.15		
15	1/11/2002	1240	Jordan Grant	weekly pay	1		546.15		