



Excel

➤ Spreadsheets

- Excel is Microsoft’s spreadsheet. A spreadsheet is a grid of columns and rows in which text but principally numbers can be entered and arithmetically operated on. Historically, a spreadsheet, VisiCalc was the first “killer application” that drove early PC sales. Latter, Lotus 123 was the spreadsheet of choice. Now, Excel dominates the market.

➤ The Excel Window

▪ >Desktop>>Excel

- The Excel Window has the familiar look of all Windows’ Applications. It has a **Title bar, Menu Bar and Toolbar**. The Excel window opens an Excel Workbook. A Workbook contains one or more sheets, note the Tabs at the bottom of the open sheet.

• Worksheet Area

- ◆ This area consists of numbered **Rows** and lettered **Columns** and their intersections **are Cells**. Each **Cell** is referenced by its intersecting **Column** and **Row e.g., A1**. Look at **Cell A1** it has a dark border indicating it as the **Active Cell**, the **Cell** into which entries will be placed.

Below the **Toolbar** are two boxes: the **Formula Bar** labeled, $\int x$ shows the contents of a cell or what is being entered into a cell. To the left, the **Name Box** shows the address of the **Active Cell**.

◆ Moving Around a Worksheet

➤ Mouse

- Pointing and clicking on a cell makes it the Active Cell. >**D5**>**C2**>. Groups of cells, called ranges can be selected by dragging.

➤ Keyboard

- The **Enter** key moves the **Active cell** down the column:>**Enter**>**C3**
- The **Edit, Direction and Arrow** keys are between the QWERTY keys and the numeric keypad.

↑→↓←	One cell in the arrow direction	Ctrl+ Home	Upper left corner:A1
Ctrl +↑→↓←	Moves to an extreme of a data region	Ctrl+ End	Lower-right corner
PgUp, PgDn	Up or down one screen	End +↑→↓←	Moves to the first or last cell with data
Home	Left most cell in row		



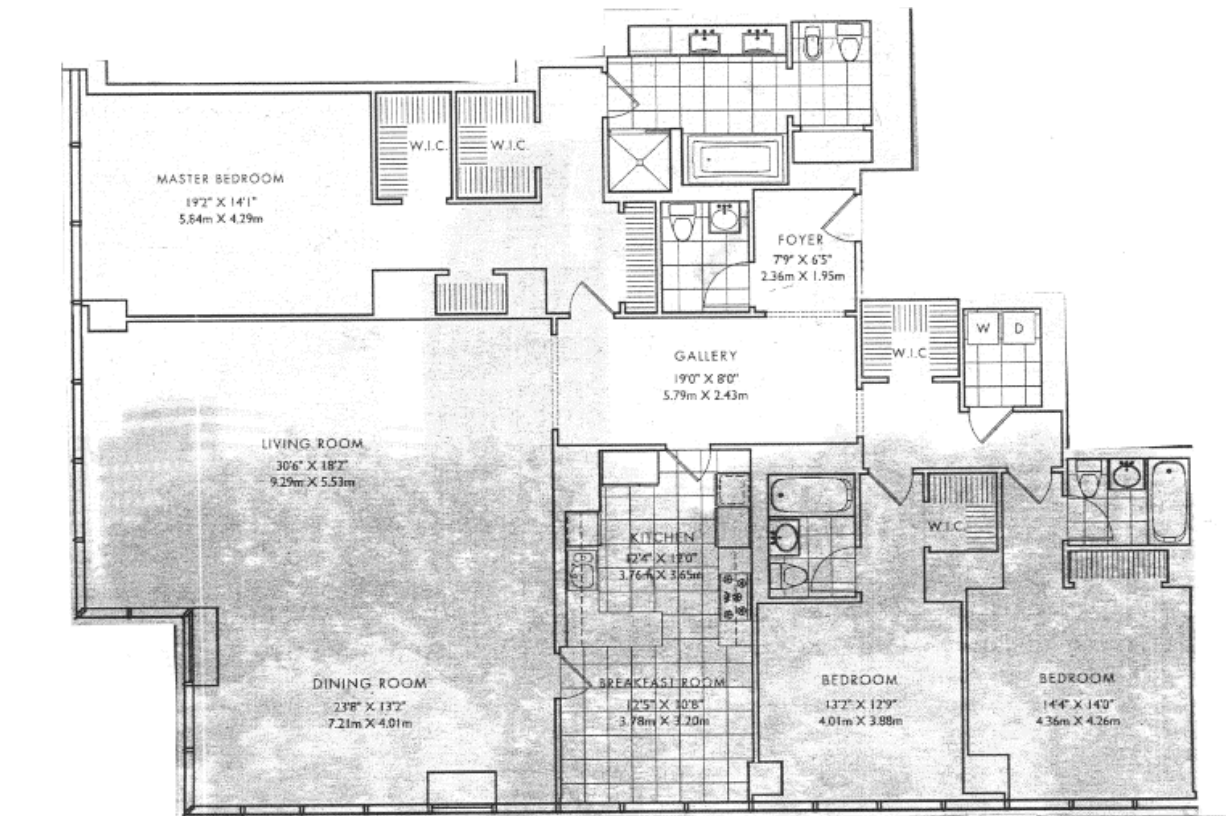
◆ **>Sheet 2**

➤ **AutoFill**

- AutoFill is a handy Excel feature. It allows you to create a series based on two adjacent cell values.
 - **>A1>1>Enter>2>Enter>A1>Drag Down to A2.**
 - ◆ Note the highlighting and the box around the two cells. Also, note the dark box in the lower-right-corner it is the **Fill-Handle**. **Drag the Fill-Handle** downward to create the series.
 - **>B1>10>Enter>20>Enter (Repeat the AutoFill process).**
 - **>C3>Mon.>Left Arrow>D3>Tue.>Enter>C3>Drag Across to D3>Drag Fill-Handle to the Right.**

◆ **Spreadsheet**

- We will create a simple spreadsheet to calculate the area of the rooms from a house plan. We need this information to order rugs.



➤ **>Sheet 3**

▪ **Data:**

Room	Length	Width
Living Room	30' 6"	18' 2"
Dining Room	23' 8"	13' 2"
Gallery	19'	8'
Master Bedroom	19' 2"	14' 1"
Bedroom 1	13' 2"	12' 9"
Bedroom 2	14' 4"	14'

- **>Enter Data**
 - *>A1>Enter Data in Column 1 in the above Table in Excel Column A.*
 - *>B1>Enter Column 2 Data>Enter Numerical Data B2>30 (space) 6/12 to convert given dimension to feet.*
 - *>C1 Enter Column 3 Data in Excel Column C.*

- **The Calculation**
 - We wish to calculate the area (length * width) of each room.
 - *>D1>Type: "Area, sq. ft.">.Enter in D2>=B2*C2>Enter>D2>Drag the AutoFill Handle down to make the remaining calculations.*
 - If you look at each cell in column **D**, you see that each cell has taken the **B** and **C** cells for that row. These calculations have been made using **Relative Cell References**.
 - Let's calculate the number of square yards in each room.
 - *>G2>9>Right Arrow>Type " sq. ft./ sq. yd.">E2>=D2 / G2>Drag the AutoFill Handle Downward.*
 - Results are Divide by zero error (**#DIV/!**)! This happened because there are no numbers in **Cells G3 to G7**. We need to use an **Absolute Cell Reference** to force Excel to use the value in cell **G2** in each of the calculations.
 - *>E2>Formula Bar Insert \$ before the G and 2: \$G\$2>Enter>E2>Drag AutoFill Handle downward.* The \$ before the column and row designation forces the **Absolute Cell Reference**.

- **Functions**
 - Let's use some built-in formulas to calculate the total area and average room size.
- *>C8>Total>Enter>Average>Enter
>D8>Tool Bar> Σ (AutoSum)>Enter
>E8>Tool Bar> Σ (AutoSum)>Enter
>D9>Tool Bar > Σ (Drop Down)>Average>D2>Drag to D7>Enter*
Note average formula **Data Range** changes to (**D2:D7**).
>E9>Tool Bar > Σ (Drop Down)>Average>E2>Drag to E7>Enter
Note average formula **Data Range** changes to (**E2:E7**).
>D9>Drag Fill Handle to >E9 to propagate the formula.

- **Spreadsheet Appearance**
 - Let's control the appearance of our spreadsheet changing number format, by centering and enlarging column headings and changing column widths.
 - *>D2>Drag Diagonally Down to E7>Menu Bar: Format>Cells
Number Tab>Number>Decimal places:2>OK*
 - ◆ *>Row 1>Bold>Center*
 - ◆ *>ROW 1>Insert>Row>C1>ROOM AREA>Enter>Bold*
 - ◆ *>C8>Drag to E10>Bold*

- **Graphs**
 - ◆ Excel has a wide variety of graph types to illustrate data. We will make a bar graph of the room areas.
 - *>A3>Drag to E8>Tool Bar>Chart Icon>Column>Next
Data Range Tab>Columns>Series Tab>Remove all but Series 3: D3:D8
Name: Area>Next>Chart Options: Titles>ROOM AREA>Values(Y) Axis>Sq.
Ft.>Next>Chart Location>As object in Sheet 1>Finish>on Chart (Handles
appear)>Drag Chart until upper-left corner is at B14*

Addendum

❖ **Financial Calculation: Internal Rate of Return,IRR.**➤ ***The equivalent annual interest earned on a time series of cash flows.***▪ ***>Enter the following data in cells B2,C2 and D2:***

20-Sep-94	Purchase	2500.00
07-Nov-94	Purchase	300.00
07-Feb-95	Purchase	900.00
11-Nov-96	Purchase	900.00
15-Sep-97	Purchase	900.00
06-Jul-98	Purchase	731.61
11-Sep-98	Purchase	900.00
07-Jan-99	Purchase	943.59
17-Mar-00	Sale	-5000.00
04-Jun-01	Sale	-6000.00
29-Jun-01	Sale	-1000.00
15-Apr-08	Sale	-2000.00
30-Apr-08	Sale	-1958.38

▪ ***Be sure to enter sales as negative numbers.***➤ ***>D18>Menu Bar>Formula>Financial>XIRR>Values: D2:D14>Dates:B2:B14>Guess:0.1>OK***