

# EXCEL

## - Intro to Spreadsheet Basics and Applications for Retirees



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# What is a Spreadsheet?

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- \* Historically:
  - \* Large sheet of paper with columns and rows
  - \* Organized transaction data for a business person to examine
  - \* Spreads or shows costs, income, taxes, and other related data on a single sheet of paper
- \* Electronic spreadsheets can **do this and much more...**

# Electronic Spreadsheets

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- \* Massive table (EXCEL: ~1M rows, ~16K columns)
- \* Each “cell” can contain:
  - \* Data value (number or text)
  - \* Function (pre-defined calculation, EXCEL: 491)
  - \* Formula (a calculation incl. series of functions)
- \* Good at processing and manipulating data (**sort, filter, chart, etc.**)

# History of Electronic Spreadsheets

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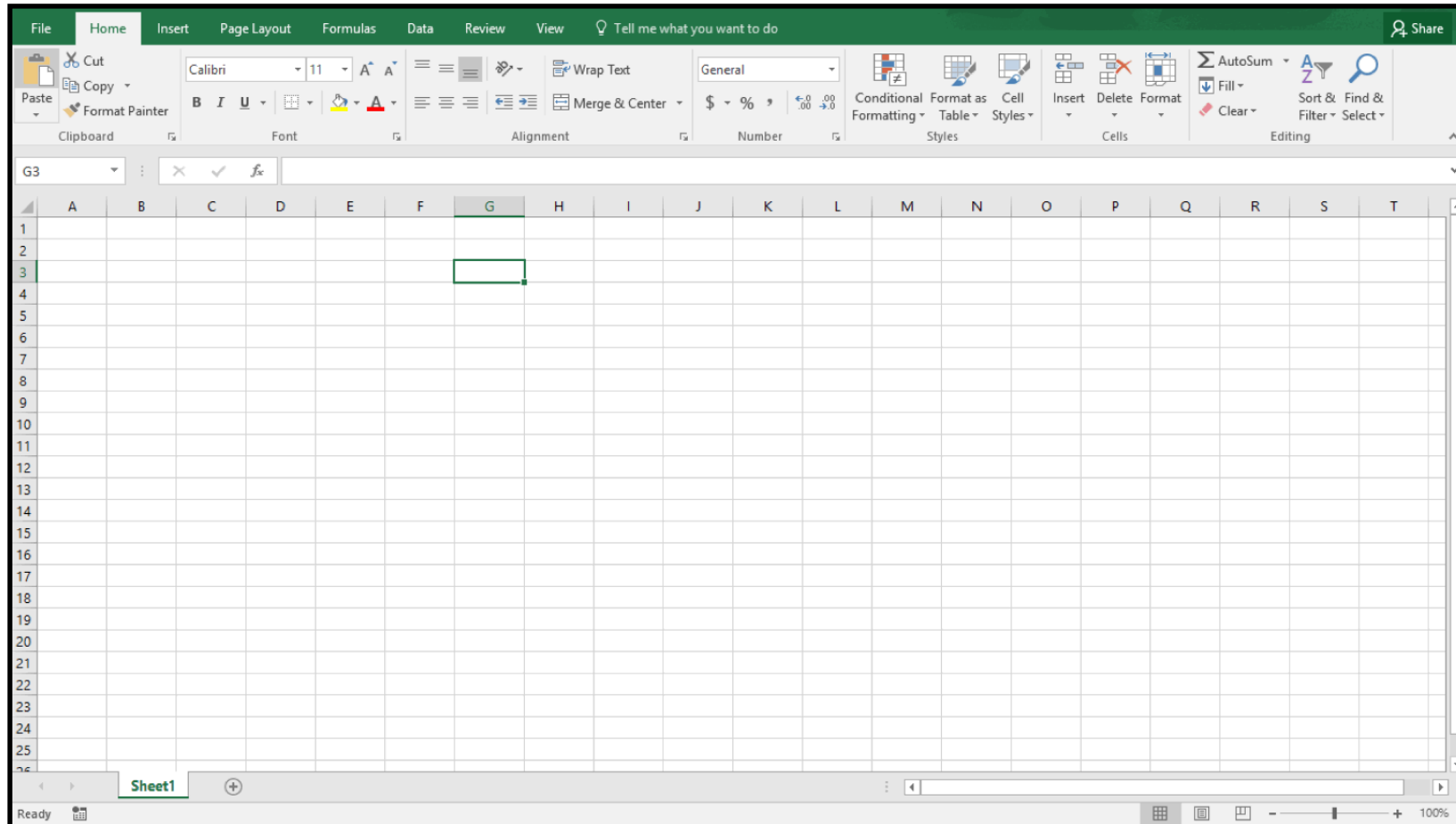
- \* 1979 - VisiCalc (visible calculator)
- \* 1980 - SuperCalc
- \* 1983 - Lotus 1-2-3
- \* 1987 - Microsoft Excel
- \* 2007 - Google Sheets

# Some Current Spreadsheet Programs

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- \* Microsoft Excel (\$110)
- \* Google Sheets (free)
- \* OpenOffice/LibreOffice Calc (free)

# Microsoft EXCEL



# Word Tables vs. EXCEL Tables

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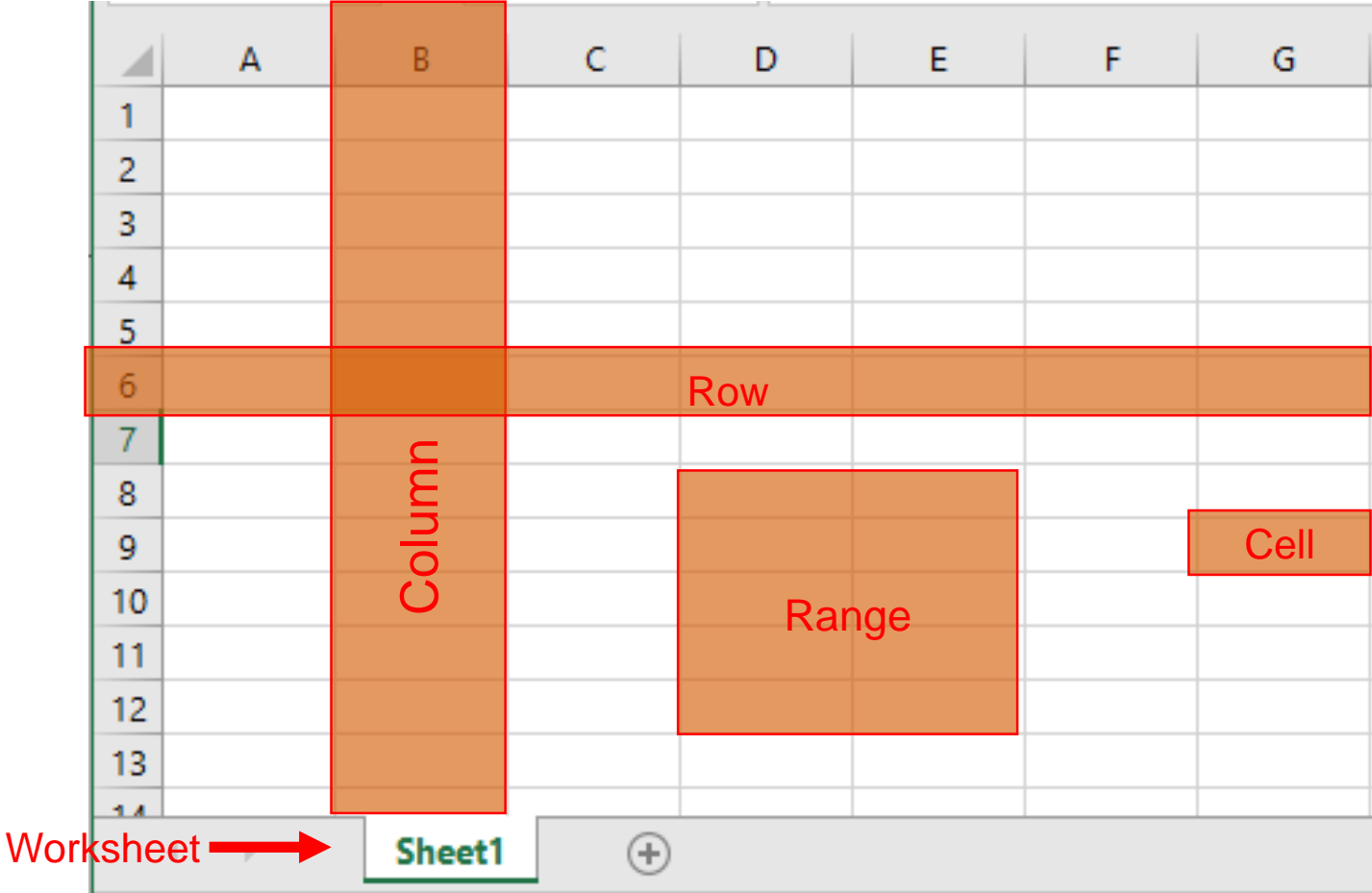
- \* **MS WORD:**

- \* Primarily for text
- \* Also handles tables
- \* "Basic" functions (18)

- \* **MS EXCEL:**

- \* Primarily for data
- \* Also handles text
- \* "Extensive" functions (461)
- \* Ability to process & manipulate data easily
- \* Tables easily "formatted"
- \* Many templates available

# Spreadsheet Basics





# Some Basic Spreadsheet Functions

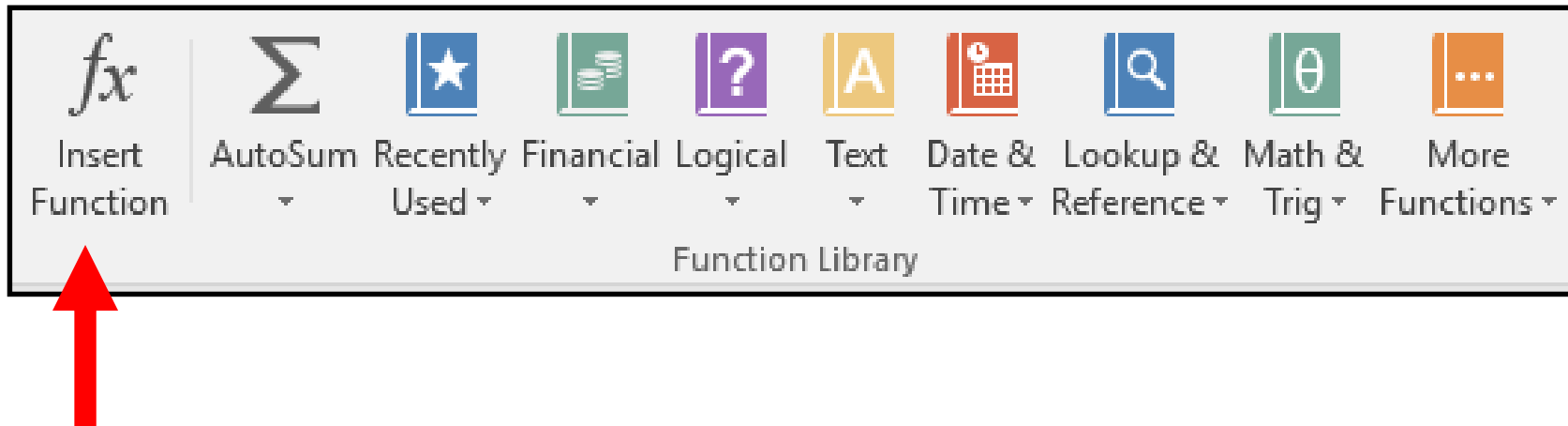
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- \* +, -, \* (multiply), / (divide)
- \* SUM, AVERAGE, COUNT
- \* SQRT, ROUND, ROUNDUP, ROUNDDOWN
- \* IF statements
- \* SUMIF, COUNTIF, AVERAGEIF
- \* TRIM, LEN, CONCATENATE
- \* MAX, MIN
- \* AND, OR

# Functions

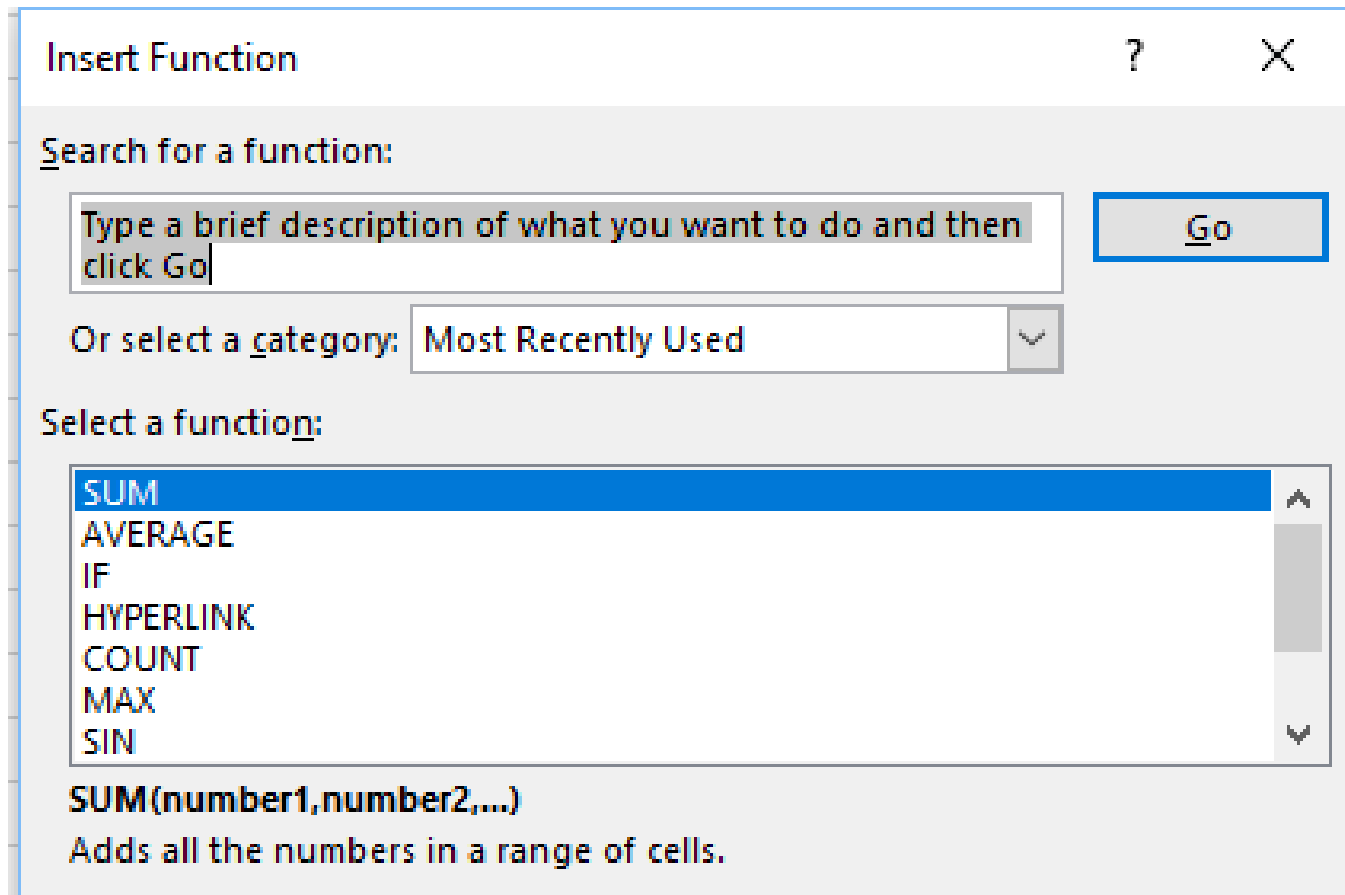
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- \* ~461 functions available (depending on the version of EXCEL)



# Insert Function Help

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# Using Formulas

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- \* Formulas always start with an equal sign (=):
  - \* Example: =A1+A2 adds the values in cells A1 and A2
  - \* Example: =A1\*A2 multiplies the values in A1 and A2
- \* You can use functions inside formulas
  - \* Example: =A1+**SQRT**(A2)/50
  - \* Example: =**IF**(A1=A2,0,A1/A2 +10)

# Non-Formula Applications

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Spreadsheets are great performing calculations, but...

- \* Spreadsheets can be used for many things besides calculations
- \* Text can be easily entered and formatted
- \* Tables can be easily arranged and formatted
- \* More printing controls than for WORD tables

# Lets try some basics...

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- \* Creating a new spreadsheet
- \* Functions and formulas
- \* Format rows, columns, cells
- \* Let it fill in some info for you
- \* Add, delete columns, rows and spreadsheets
- \* Keep column titles in sight when you scroll
- \* Finding ready-made templates
- \* Select some printing options

# Some Retiree Applications

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- \* Comparing options
- \* Monitoring investments
- \* Tracking expenses
- \* Scheduling
- \* Listing items
- \* Password manager (password protected)
- \* Checkbook register
- \* Etc., etc.

# Some Of My Uses

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- \* Travel Calendar (Spain-n-Portugal)
- \* Travel Expenses (Thailand 2012 Travel Expenses)
- \* Tour Comparison (Angkor Wat Tours)
- \* Attendance List (Retiree List)
- \* Home Improvement Bid Evaluation (Window Replacement)
- \* Stock Tracking (Dreyfus Stock)
- \* Financial Performance (AE Financial Performance)
- \* Golf Scorecard (KARAF Excel Spreadsheet)
- \* Golf Results (Poppy Ridge Results)
- \* Charitable Donations (Tax-noncash donations)



# What are your spreadsheet examples?

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# Appendix

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# SUM Function

The screenshot shows the Microsoft Excel interface with the 'FORMULAS' tab selected. The 'Insert Function' button is highlighted in the ribbon. The spreadsheet contains a table of berry types and their counts. The 'Totals' row (B14) contains the formula `=SUM(B4:B13)`. The 'Function Arguments' dialog box is open, showing the range B4:B13 selected for the SUM function. The result of the function is 601.

Plants:Trees/Bushes	Inventory
Blueberries	88
Raspberries	76
Strawberries	90
Blackberries	74
Huckleberries	51
Boysenberries	47
Cranberries	65
Mulberries	40
Elderberries	36
Gooseberries	34
Totals	=SUM(B4:B13)

Function Arguments dialog box details:

- Function: SUM
- Number1: B4:B13
- Number2: (empty)
- Formula result = 601

# AutoSum Functions

The screenshot shows the Microsoft Excel interface with the **FORMULAS** tab selected. The **AutoSum** button (Σ) is highlighted with a red box, and its dropdown menu is open, showing options: **Sum**, **Average**, **Count Numbers**, **Max**, **Min**, and **More Functions...**. Red arrows point from these options to specific cells in a table below. The table has columns for plant types and their inventory counts across four different locations. Row 14 shows the 'Totals' for each location, and rows 15 and 16 show formulas for counting, averaging, and finding the maximum and minimum values.

	A	B	C	D	E	F	G	H
2								
3	Plants:Trees/Bushes	Inventory	Inventory	Inventory	Inventory			
4	Blueberries	88	88	88	88			
5	Raspberries	76	76	76	76			
6	Strawberries	90	90	90	90			
7	Blackberries	74	74	74	74			
8	Huckleberries	51	51	51	51			
9	Boysenberries	47	47	47	47			
10	Cranberries	65	65	65	65			
11	Mulberries	40	40	40	40			
12	Elderberries	36	36	36	36			
13	Gooseberries	34	34	34	34			
14	Totals	10	60	90	34			
15	Formulas	=COUNT(B4:B13)		=MAX(D4:D13)				
16	Formulas		=AVERAGE(C4:C13)		=MIN(E4:E13)			

# DAYS Function

The screenshot displays the Microsoft Excel interface with three function argument dialog boxes open over a spreadsheet. The spreadsheet contains data for calculating the number of days and workdays between two dates, and for removing extra spaces from text.

	A	B	Formula
28		# of Days	
29	March 31, 2015		
30	October 12, 2015	195	=DAYS(A30,A29)
31			
32		# of Work Days	
33	March 31, 2015		
34	October 12, 2015	140	=NETWORKDAYS(A33,A34)
35			
36	LIST	Spaces Removed	
37	blue hats	blue hats	=TRIM(A39)
38	gray vests	gray vests	=TRIM(A40)
39	yellow scarves	yellow scarves	=TRIM(A41)
40	brown gloves	brown gloves	=TRIM(A42)
41	red shoes	red shoes	=TRIM(A43)

**DAYS Function Arguments Dialog:**  
End\_date: A30 = 42209  
Start\_date: A29 = 42094  
Returns the number of days between the two dates. = 195  
Start\_date - start\_date and end\_date are the two dates between which you want to know the number of days.  
Formula result = 195

**NETWORKDAYS Function Arguments Dialog:**  
Start\_date: A33 = 42094  
End\_date: A34 = 42289  
Holidays: = 0/0/0  
Returns the number of whole workdays between two dates.  
Holidays is an optional set of one or more serial date numbers to exclude from the calculation. It can be a reference to a range of cells that contain dates and floating holidays, or a list of dates separated by commas.

**TRIM Function Arguments Dialog:**  
Text: A39 = 'blue hats'  
Returns all spaces from a text string except for single spaces between words.  
Text is the text from which you want spaces removed.  
Formula result = blue hats

# Concatenation Function

The screenshot displays the Microsoft Excel interface with two 'Function Arguments' dialog boxes open. The top dialog is for the CONCATENATE function, and the bottom one is for the DATEVALUE function. Red arrows indicate the flow of data from the dialog boxes to the spreadsheet cells.

**CONCATENATE Function Arguments:**

- Text1: E33 = "January"
- Text2: "-" = "-"
- Text3: F33 = "1"
- Text4: "-" = "-"
- Text5: G33 = "2015"

Formula result = "January 1, 2015"

**DATEVALUE Function Arguments:**

- Date\_text: H33 = "January 1, 2015"

Formula result = 42005

**Spreadsheet Data:**

Dates	Joined	Formula
January 1 2015	January 1, 2015	=CONCATENATE(E33,"-",F33,"-",G33)
February 14 2015	February 14, 2015	=CONCATENATE(E34,"-",F34,"-",G34)
March 17 2015	March 17, 2015	=CONCATENATE(E35,"-",F35,"-",G35)

Phone Numbers	Joined	Formula
800 555 1212	800-555-1212	=CONCATENATE(E37,"-",F37,"-",G37)
800 522 7711	800-522-7711	=CONCATENATE(E38,"-",F38,"-",G38)
877 555 2121	877-555-2121	=CONCATENATE(E39,"-",F39,"-",G39)
877 522 1177	877-522-1177	=CONCATENATE(E40,"-",F40,"-",G40)

Phone Numbers	Special Values	Formula
800-555-1212	42005	=DATEVALUE(H33)
800-522-7711	February 14, 2015	=DATEVALUE(H34)
877-555-2121	March 17, 2015	=DATEVALUE(H35)

# Learning more about EXCEL

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- \* Go to YouTube.com
- \* Search: “Jalayer Academy Microsoft Excel Tutorials”
- \* Select “View Full Playlist” (131 Tutorials)
- \* Each video typically 5-10 minutes