

## Functions

### Financial Functions

- **DB** finds the depreciation of an asset based on the fixed declining balance method
- **DDB** finds the depreciation of an asset using the double declining balance method
- **FV** calculates a future value based on constant payments and constant interest rate
- **IPMT** finds the interest payment based on constant payments and constant interest rate
- **ISPMT** finds the interest paid on an investment over a specific period
- **NPER** finds the number of periods for an investment based on constant interest and payments
- **NPV** calculates the net present value of an investment
- **PMT** calculates loan payments based on a constant interest rate
- **PPMT** calculates the payment on the principle for an investment based on constant payments and interest rate
- **PV** gives the present value of an investment
- **RATE** finds the interest rate per period on a loan or investment

### Date and Time Functions

- **DAY** returns the number of the day from 1 to 31
- **DAYS360** calculates the number of days between two dates based on 360 day years
- **HOUR** gives the hour as a number from 0 to 23
- **MINUTE** gives the minute as a number from 0 to 59
- **MONTH** gives the month as a number from 1 to 12
- **NOW** gives the current date and time
- **SECOND** gives the second as a number from 0 to 59
- **TIME** converts hours minutes and seconds to an Excel serial number time
- **TODAY** provides the current date
- **WEEKDAY** gives the day as a number from 1 to seven
- **YEAR** gives the year of a serial number date, from 1900 to 9999

### Mathematical and trigonometric functions

- **ABS** Gives the absolute value of a number
- **ACOS** calculates the arc cosine of a number in radians
- **ASIN** calculates the arc sin
- **ATAN** calculates the arc tangent of a number in radians
- **CEILING** rounds a number up to the nearest integer
- **COMBIN** calculates the number of possible combinations
- **COS** calculates the cosine of a given angle
- **EVEN** rounds a number up to the nearest even integer
- **EXP** raises the mathematical constant **e** to a given power
- **FACT** calculates the factorial of a number
- **FLOOR** rounds a number down to the nearest significant number
- **INT** rounds a number down to the nearest integer
- **LN** finds the log to the base e of a given number
- **LOG** finds the log to any given base for a given number

### Lookup and Reference Functions

- **COLUMN** finds the column number for a reference
- **COLUMNS** tells you the number of columns in a given range
- **HLOOKUP** finds a specified value in the top row of a range, and from the same column, returns a value from a specified row
- **HYPERLINK** creates a hyperlink to a document stored locally, on your network, or the internet
- **INDIRECT** returns the value associated with a given text reference.
- **LOOKUP** looks up a specified value in a one row or one column range of data
- **ROW** finds the row number for a given reference
- **ROWS** tells you the number of rows in a given range
- **VLOOKUP** finds a specified value in the far left column of a table and returns from the same row, a value from a column you specify

### Database Functions

- **DAVERAGE** averages values in a column according to conditions you specify
- **DCOUNT** count cells that contain numbers matching conditions you specify
- **DGET** gets a record from an Excel database matching conditions that you specify
- **DMAX** gets the largest number from a column in your Excel database where the number satisfies conditions you specify
- **DMIN** retrieves the smallest number that meets your conditions from a column in the database
- **DSUM** sums numbers in a database that satisfy conditions you specify

### Text Functions

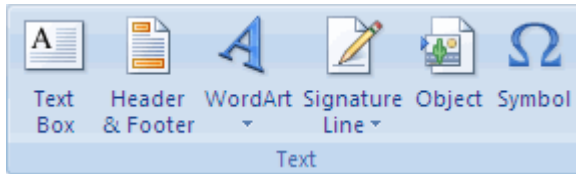
- **CLEAN** removes all characters that cannot be printed from the text
- **CONCATINATE** joins together strings of text into one larger string
- **DOLLAR** converts a number to currency formatted text
- **EXACT** will test two text strings to see if they are exactly the same
- **FIND** will find the starting location of a string of characters within a larger string
- **LEFT** returns a specified number of characters from the start (left ) of a string
- **LEN** gives the number of characters in a text string
- **LOWER** converts any uppercase letters in a string to lowercase
- **REPLACE** will replace a part of a string with another string
- **RIGHT** will give you the specified number of characters from the end or right of a string
- **T** tests if a cell value is text or not
- **TEXT** converts a value to number formatted text
- **TRIM** removes all extra spaces from a text string ( spaces between words will stay)
- **UPPER** converts a text string to uppercase

### Logical Functions

- **AND** will return the logical value true if all of the arguments you specify are true, and will return a logical value of false otherwise
- **FALSE** will return the logical value false
- **IF** will test if a condition that you set is true, and return a specified value if it is, and another specified value if it isn't
- **NOT** will change logical values from true to false or false to true (**not** true is false, and **not** false is true)
- **OR** will return a logical value of true if any of the arguments are true and a value of false if both all arguments are false
- **TRUE** returns the logical value of true

## Enhancing your Workbook

Use the Text section of the Insert Ribbon to add visual and functional enhancements to your workbook.



- Text Box** Text boxes are more versatile than simply typing and formatting text in a cell.
- Header/Footer** Add a company logo or contact information in a header or footer.
- WordArt** Add attractive titles and attention-getting references.
- Signature Line** Add a signature line to use if a hard copy will be given to someone for approval.
- Object** Embed some object like a PDF or PowerPoint to a spreadsheet.
- Symbol** Choose from many different symbols: currency, mathematical, Cyrillic, Greek, Basic Latin, superscripts and subscripts, and many more.

## Using the Total Row

The Total Row is a special Excel component that can automatically calculate certain things in a table for you without having to manually enter formulas:

	620	-229	-21
	750	-460	-65
	880	-691	-109
<b>Total</b>			<b>-26</b>

- None** Nothing displayed.
- Average** Average of numerical values in the column.
- Count** Number of items in the column.
- Max** Maximum value in the column.
- Min** Minimum value in the column.
- Sum** Sum of numerical data in the column.
- StdDev** Standard deviation for numerical data in the column.
- Var** Variance of numerical data in the column.

## Fixing Formula Errors

Excel is capable of using very complex functions. However, something like an incorrect cell reference or missing parenthesis can be hard to trace. Understanding the error will help you track down the problem.

- #NAME?** Something in the formula is interpreted as incorrect cell reference, range, or function name.
- #REF!** Might have relocated or deleted a cell referenced in a formula.
- #VALUE!** Indicates a given formula argument is of incorrect type (such as adding text to a number field).
- #DIV/0!** Occurs when a formula divides by 0 or references an empty cell.
- #NUM!** Occurs when an incorrect argument type is passed to a function (such as adding text to a number field).
- #####** Cell contents are too wide to fit in the cell. Double-click the column separator to automatically fix this.

## Basic Mathematical Operators

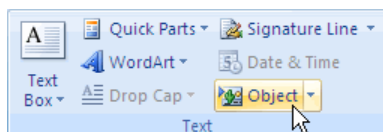
^	<b>Exponent</b> ( $10^2 = 100$ )
*	<b>Multiplication</b> ( $10*2 = 20$ )
/	<b>Division</b> ( $10/2 = 5$ )
+	<b>Addition</b> ( $10+2 = 12$ )
-	<b>Subtraction</b> ( $10-2 = 8$ )
=	<b>Equivalence</b> ( $x=8$ )
>	<b>Greater than</b> ( $10>2$ )
<	<b>Less than</b> ( $2<10$ )

### Examples:

- $(3+2)*2=10$
- $3+2*2=7$
- $(10+20)/2=10$
- $10+20/2=20$
- $((4+6)*2)^2=400$
- $4+6*2^2=27$

## Inserting Excel Data into Word

- In Excel, copy the data you need (can be data, charts, etc)
- In Word, place your cursor where the data will go.
- Right-click and click Paste Special or click the Object command on the Insert ribbon..
- When you see the Paste Special dialog box in Word, click the **Paste** radio button and select **Microsoft Office Excel Worksheet Object**.  
  
If inserting an Object, decide if you want only a link to the file by clearing the Link to File check box.
- Click OK.
- Edit any inserted Excel data by double-clicking the data in the Word document. This will essentially 'open' Excel inside Word and allow you to edit information.



## Using the My Places Toolbar

- My Recent Documents** A list of recently used, completed, or accessed files.
- Desktop** A list of navigable links that can also be found on your desktop.
- My Documents:** Provides access to the folders and files in your My Documents folder.
- My Computer** Provides access to the disk drives on your computer.
- My Network Places** If you are on a network, this button can display the remote locations accessible via your network.

