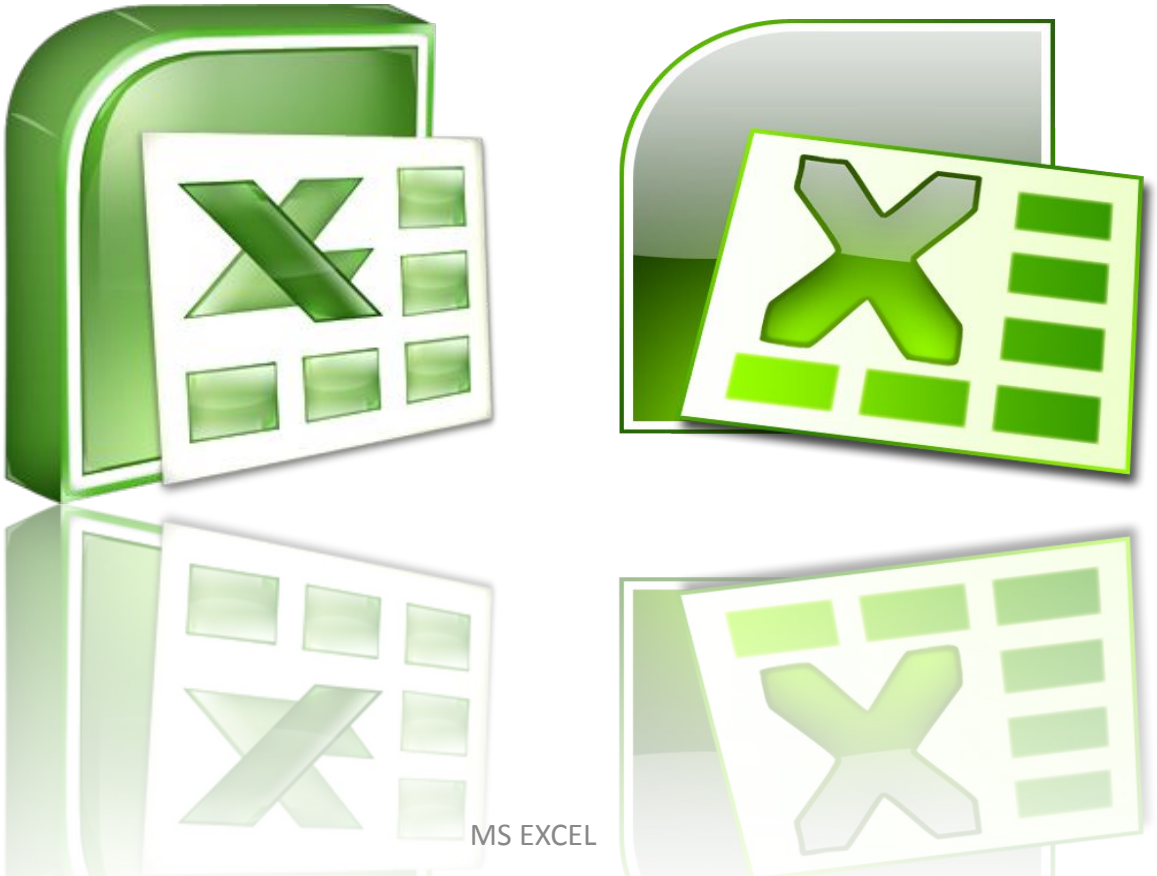
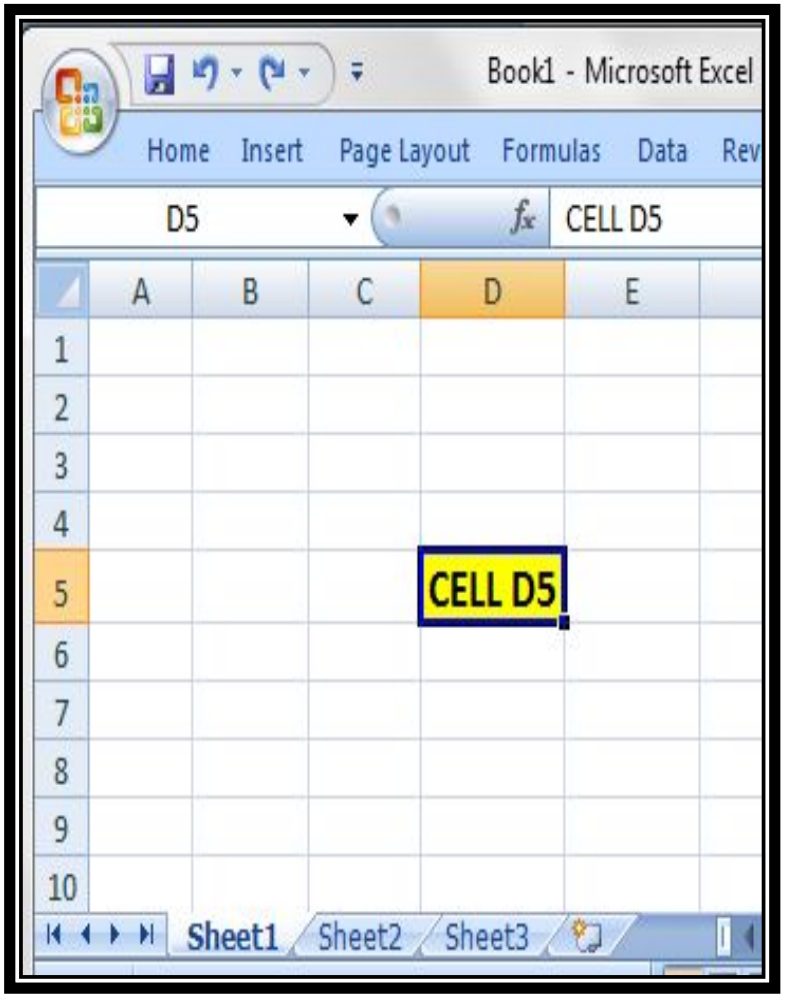
MS EXCEL



INTRODUCTION TO MS EXCEL

- Excel is a computer program used to create electronic spreadsheets.
- Within excel user can organize data, create chart and perform calculations.
- Excel is a convenient program because it allow user to create large spreadsheets, reference information, and it allows for better storage of information.
- Excel operates like other Microsoft(MS) office programs and has many of the same functions and shortcuts of other MS programs.

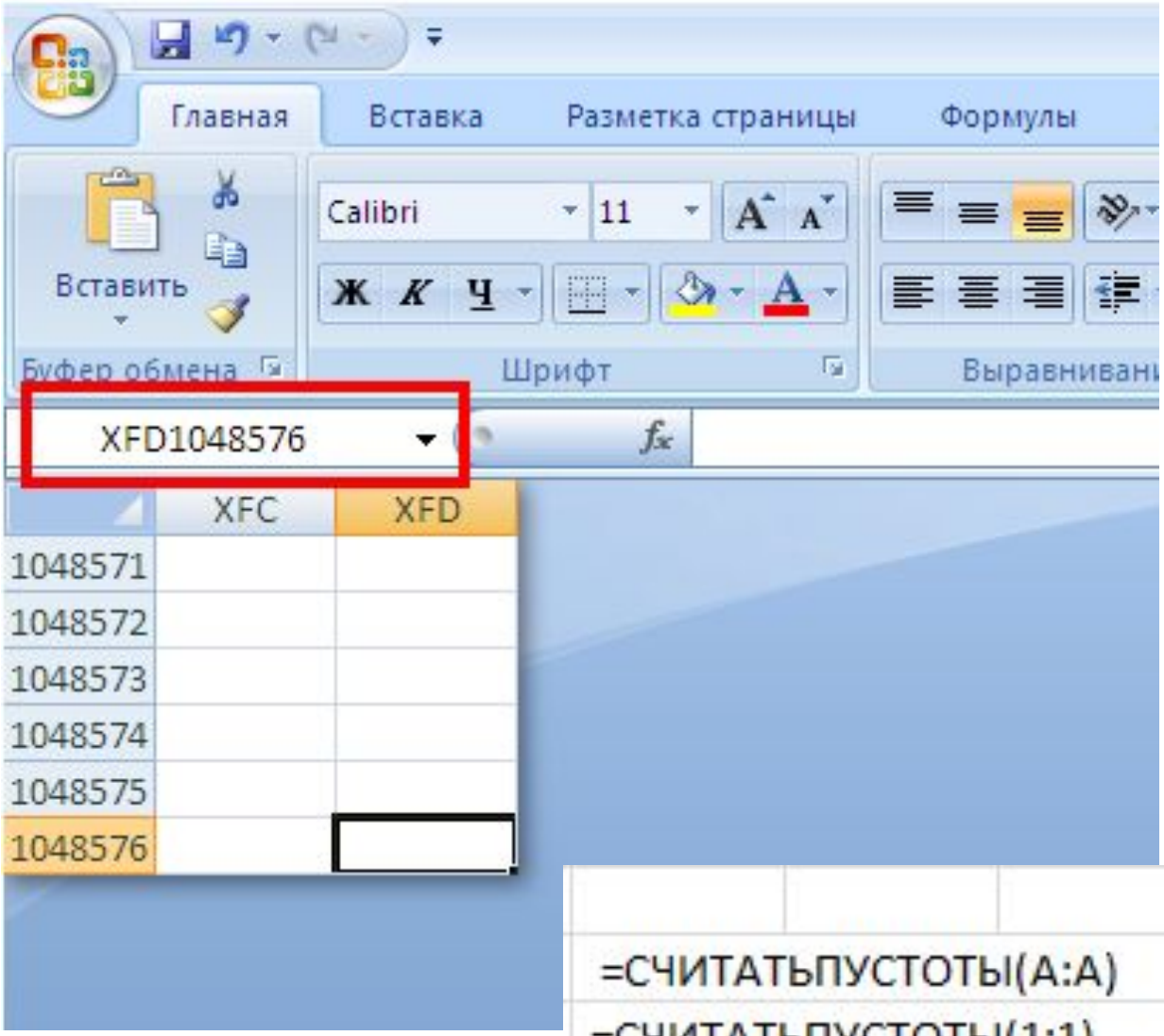
OVERVIEW OF EXCEL



Excel consists of sheets with columns and rows.

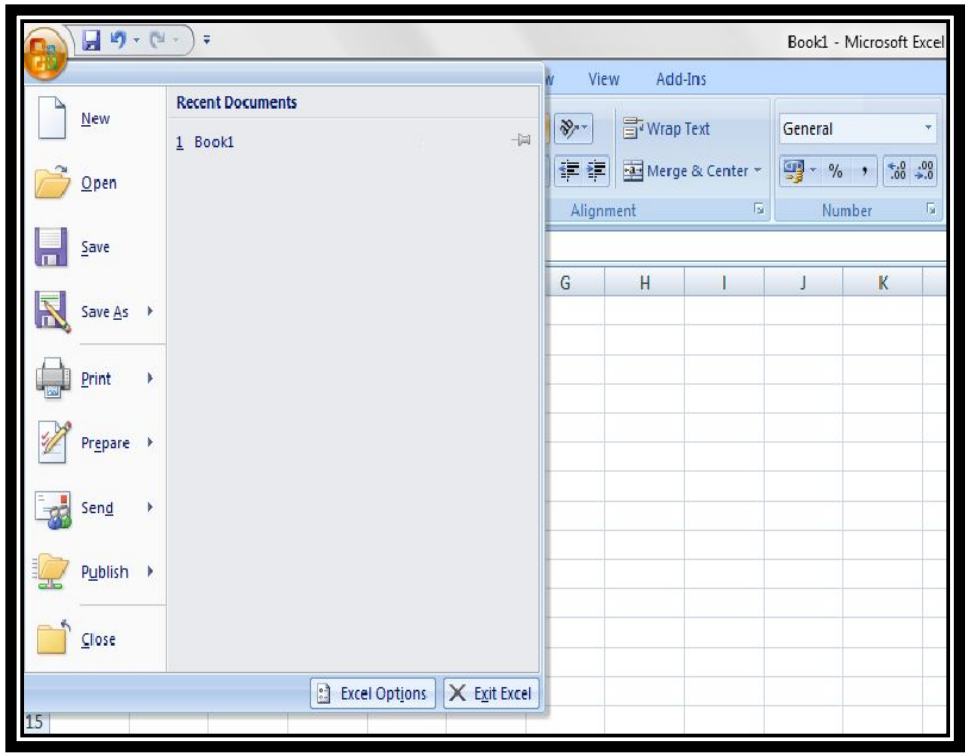
Columns are lettered alphabetically from A to Z and then continuing with AA, AB, AC and so on; rows are numbered 1 to 1,048,576.

Combination of a row and a column makes up a cell address. For example cell D5 is located under column D on row 5.



	=СЧИТАТЬПУСТОТЫ(A:A)		1048576	
	=СЧИТАТЬПУСТОТЫ(1:1)		16384	

OFFICE BUTTON



OFFICE BUTTON CONTAINS

NEW-TO OPEN NEW WORKBOOK (CTRL+N)

OPEN-TO OPEN EXISTING DOCUMENT (CTRL+O)

SAVE-TO SAVE A DOCUMENT (CTRL+S)

SAVE AS-TO SAVE COPY DOCUMENT (F12)

PRINT-TO PRINT A DOCUMENT (CTRL+P)

PREPARE-TO PREPARE DOCUMENT FOR DISTRIBUTION

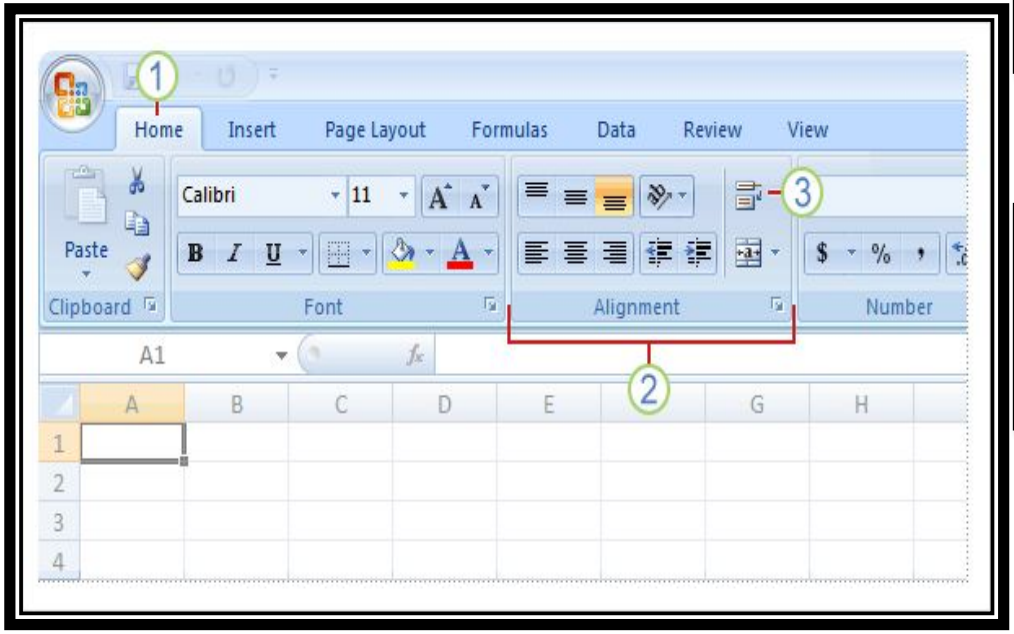
SEND-TO SEND A COPY OF DOCUMENT TO OTHER PEOPLE

PUBLISH-TO DISTRIBUTE DOCUMENT TO OTHER PEOPLE

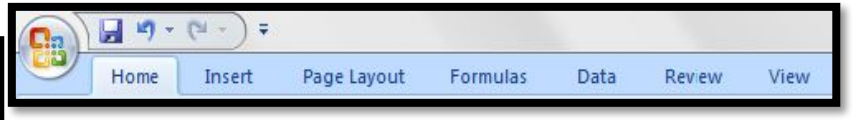
CLOSE-TO CLOSE A DOCUMENT (CTRL+W)

R I B B O N

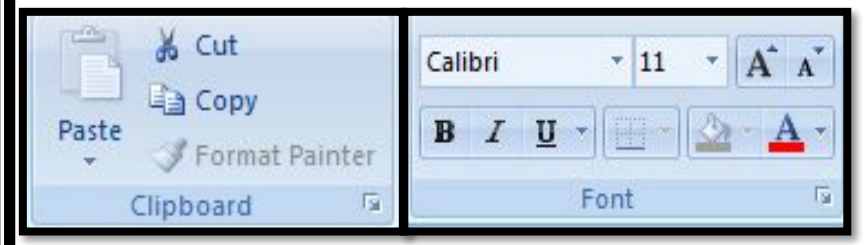
THE THREE PARTS OF THE RIBBON ARE



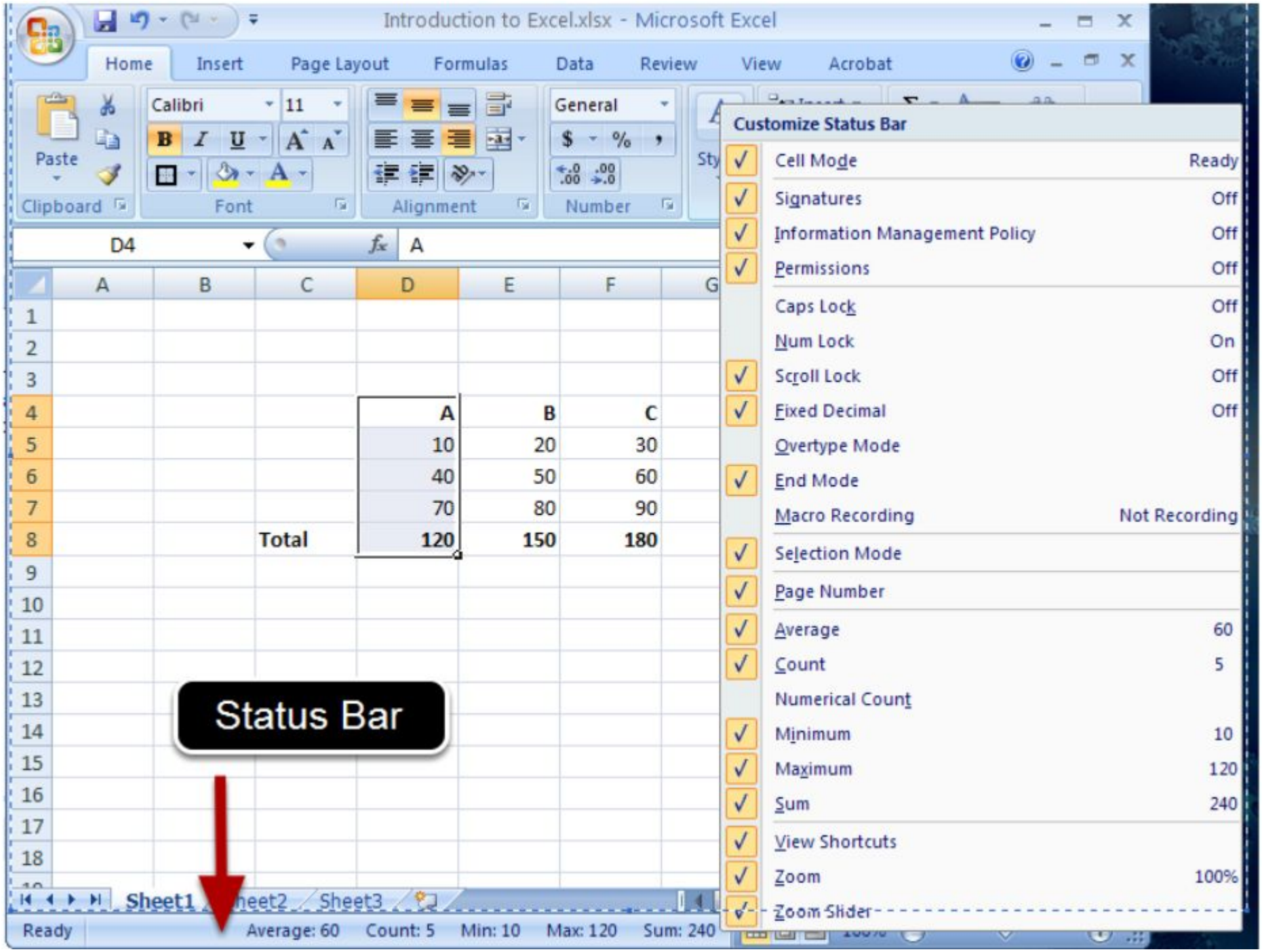
TABS



GROUPS



COMMANDS


Introduction to Excel.xlsx - Microsoft Excel
Home
Insert
Page Layout
Formulas
Data
Review
View
Acrobat
Paste
Clipboard
Calibri
11
Font
Alignment
General
Number
D4
A
A
B
C
D
E
F
G
1
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3
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14
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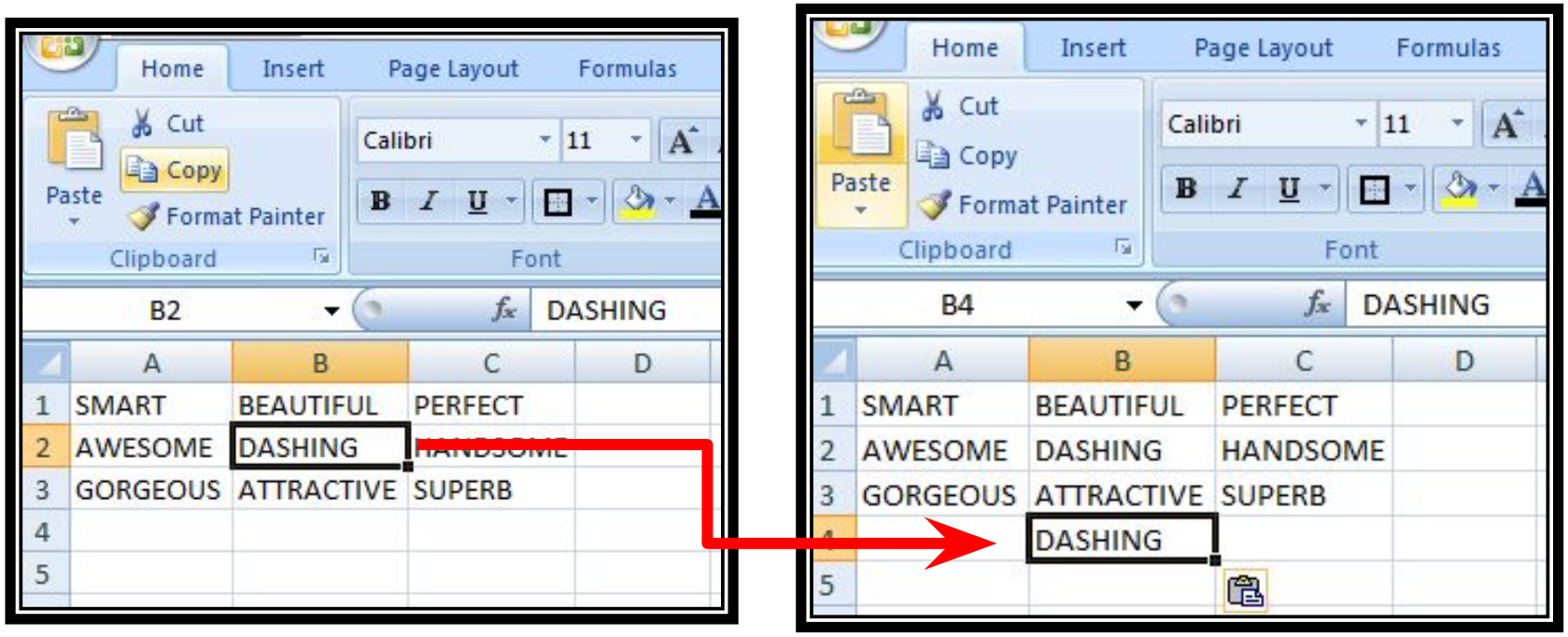
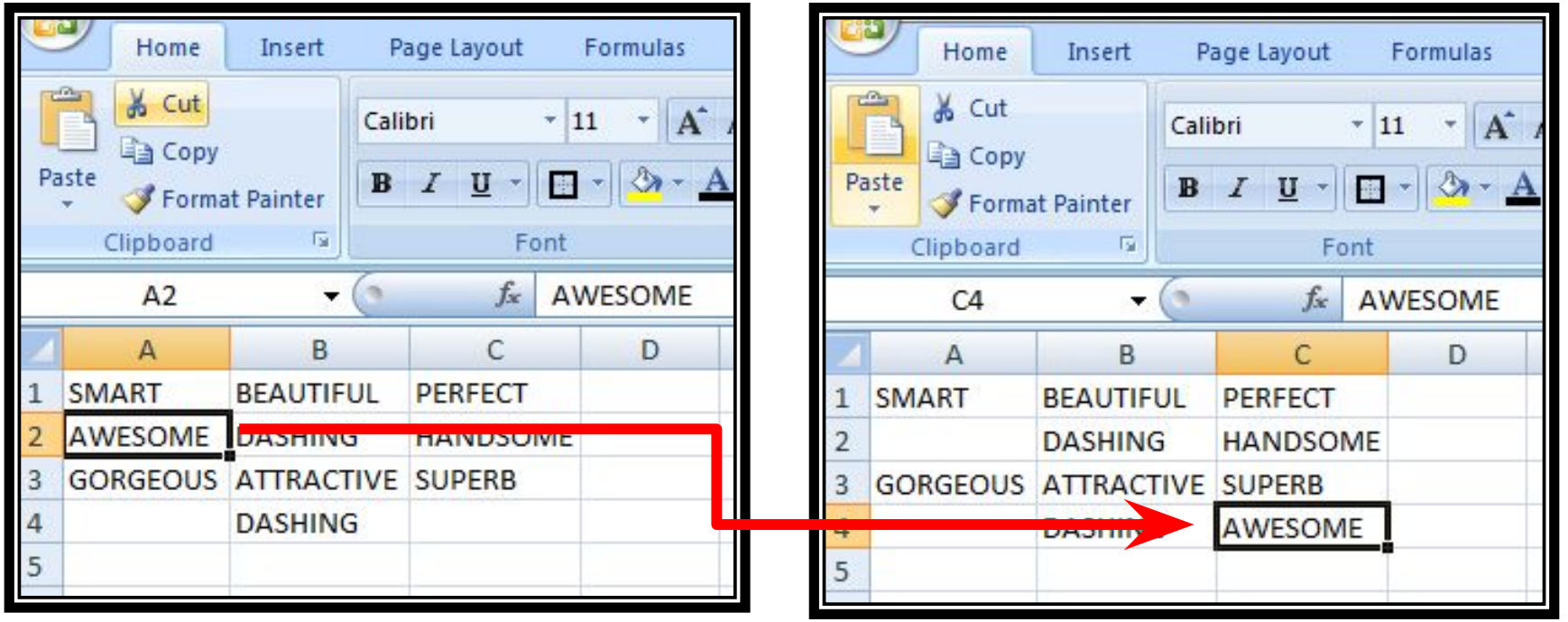
16
17
18
A
B
C
10
20
30
40
50
60
70
80
90
Total
120
150
180
Status Bar
Sheet1
Sheet2
Sheet3
Ready
Average: 60
Count: 5
Min: 10
Max: 120
Sum: 240
Customize Status Bar
Cell Mode
Ready
Signatures
Off
Information Management Policy
Off
Permissions
Off
Caps Lock
Off
Num Lock
On
Scroll Lock
Off
Fixed Decimal
Off
Overtype Mode
End Mode
Macro Recording
Not Recording
Selection Mode
Page Number
Average
60
Count
5
Numerical Count
Minimum
10
Maximum
120
Sum
240
View Shortcuts
Zoom
100%
Zoom Slider

WORKING WITH CELLS



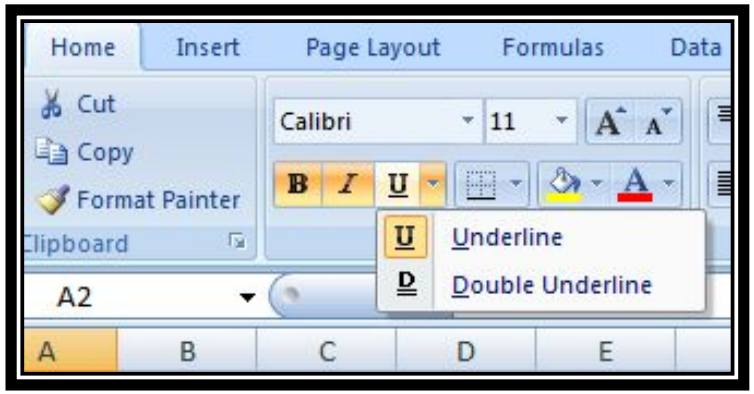
TO COPY AND PASTE CONTENTS

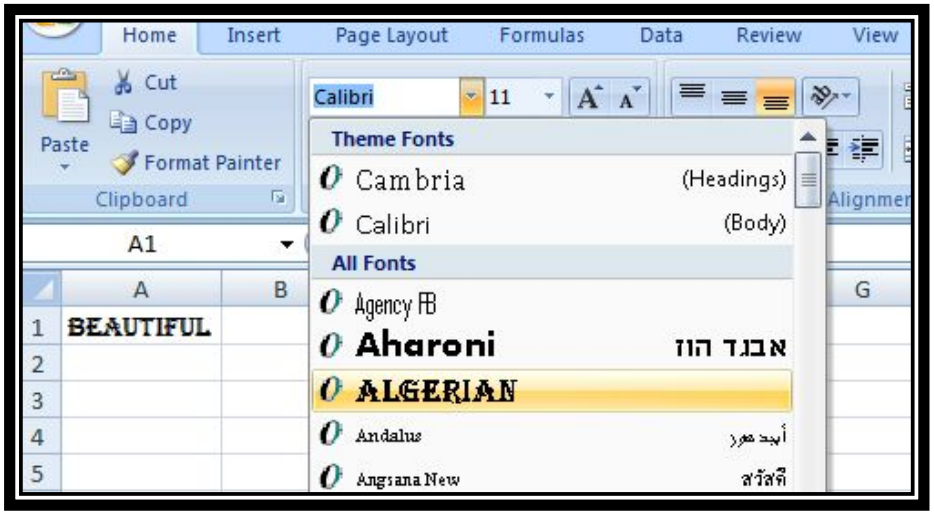
WORKING WITH CELLS



To Cut and Paste Cell Contents

FORMATTING TEXT

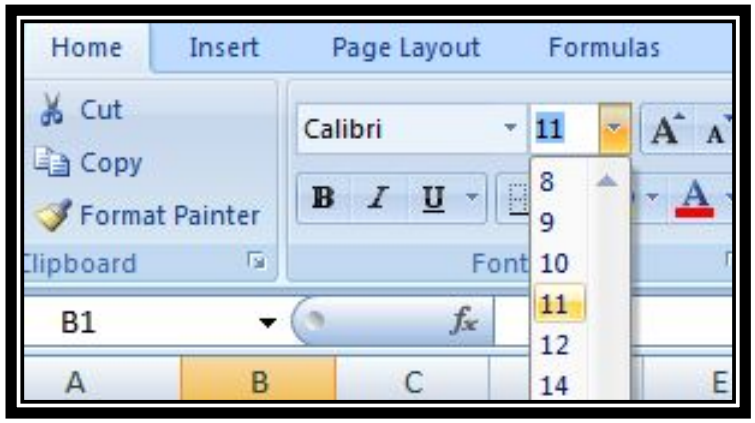


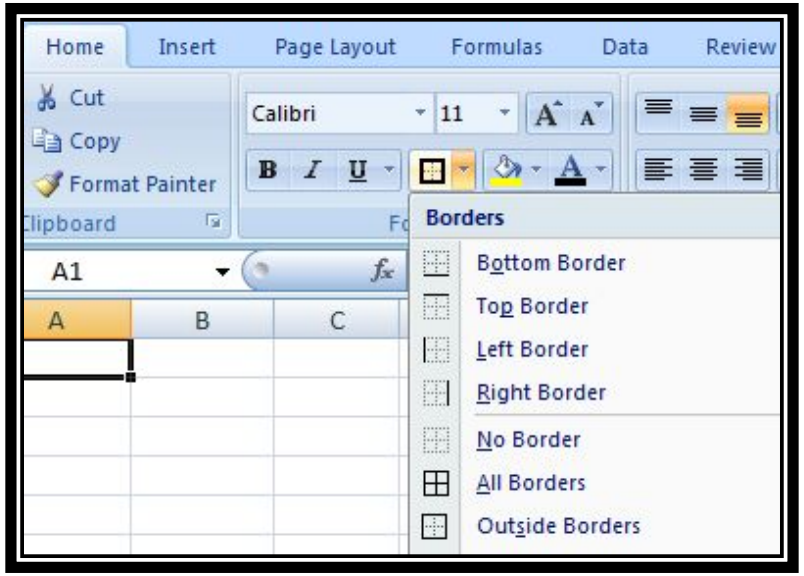


TO FORMAT TEXT IN BOLD, ITALICS OR UNDERLINE

TO CHANGE THE FONT STYLE

FORMATTING TEXT

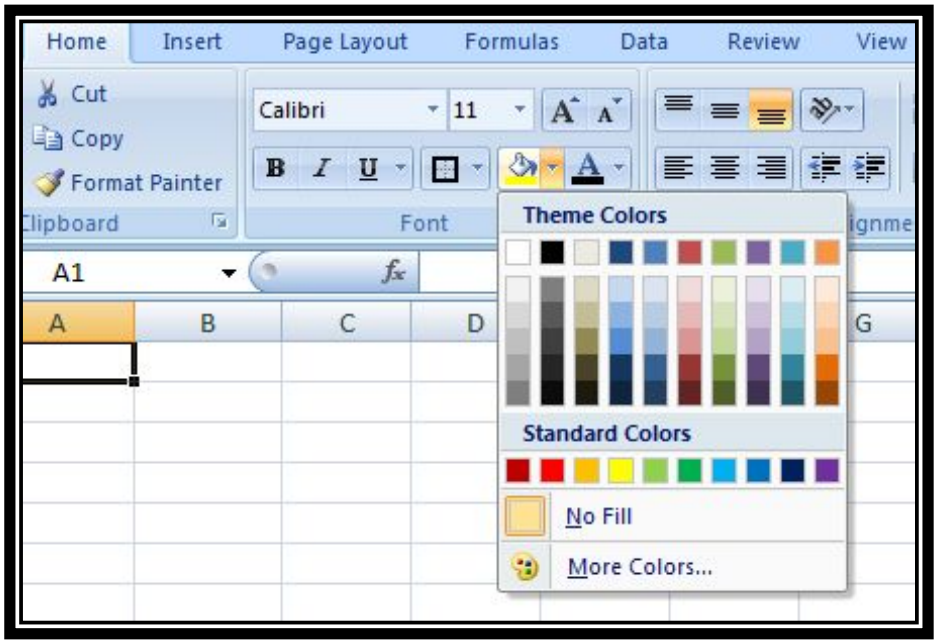


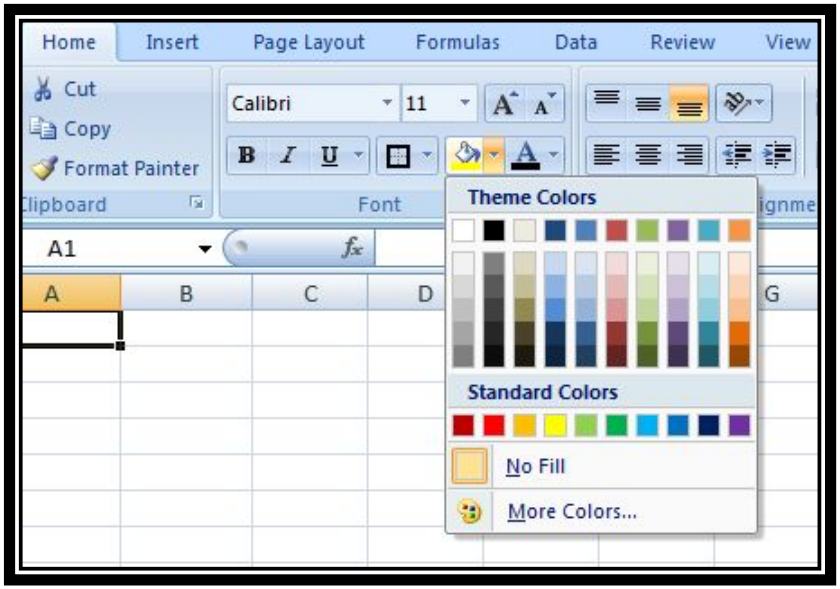


TO CHANGE THE FONT SIZE

TO ADD A BORDER

FORMATTING TEXT





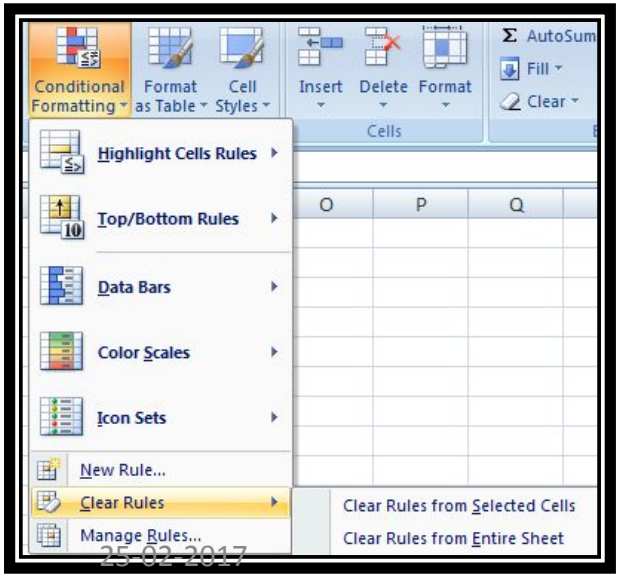
TO CHANGE THE TEXT COLOUR

TO ADD A FILL COLOUR

CONDITIONAL FORMATTING

TO APPLY CONDITIONAL FORMATTING:

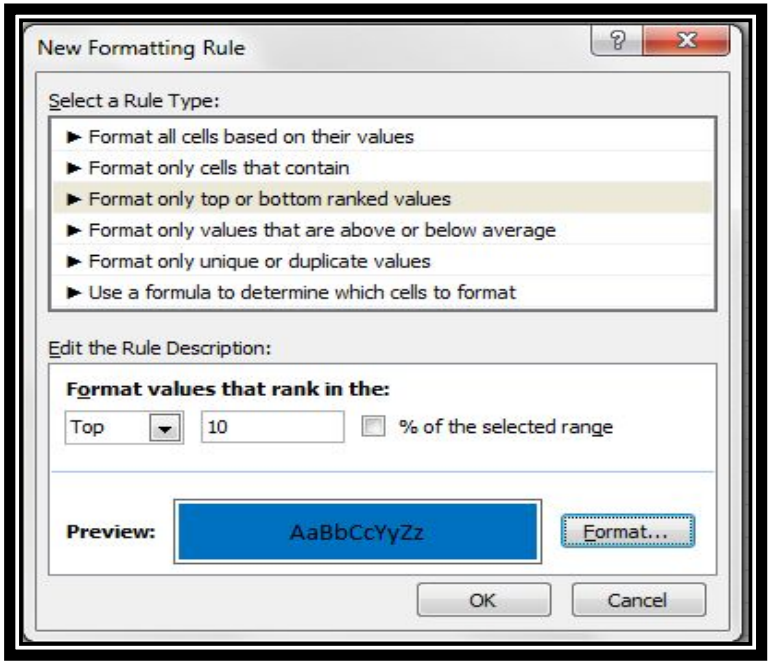
Select the cells you would like to format.
Select the **Home** tab.
Locate the **Styles** group.
Click the **Conditional Formatting** command. A menu will appear with your formatting options.

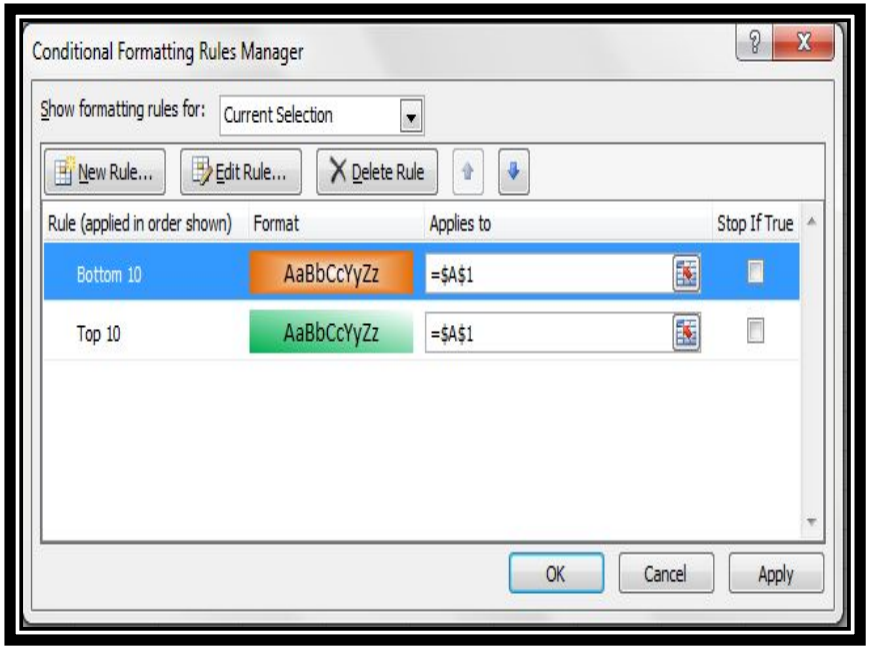


TO REMOVE CONDITIONAL FORMATTING:

Click the **Conditional Formatting** command.
Select **Clear Rules**.
Choose to clear rules from the **entire worksheet** or the **selected cells**.

CONDITIONAL FORMATTING





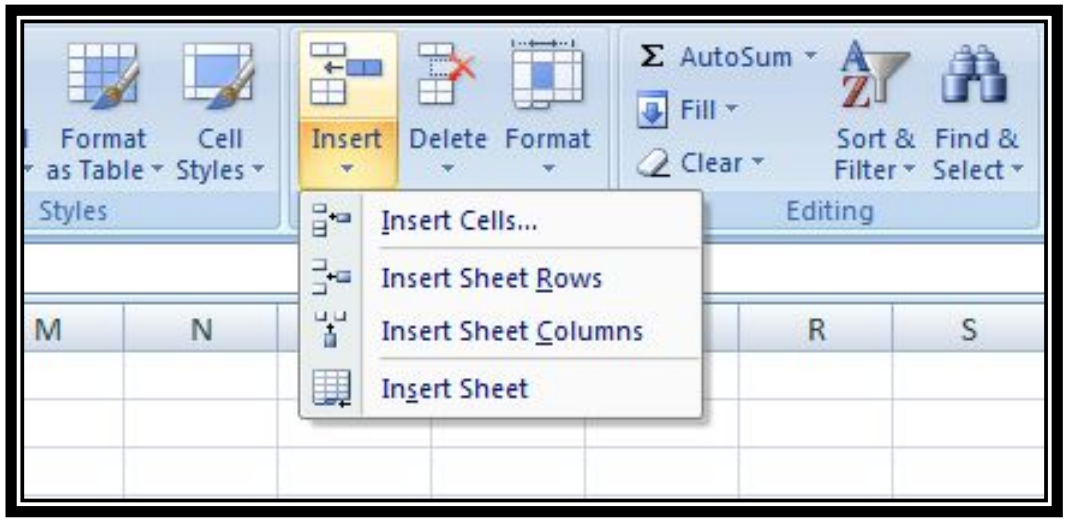
TO APPLY NEW FORMATTING:

Click the **Conditional Formatting** command. Select **New Rules** from the menu. There are different rules, you can apply these rules to differentiate particular cell.

TO MANAGE CONDITIONAL FORMATTING:

Click the **Conditional Formatting** command. Select **Manage Rules** from the menu. The Conditional Formatting Rules Manager dialog box will appear. From here you can edit a rule, delete a rule, or change the order of rules.

TO INSERT ROWS & COLUMNS



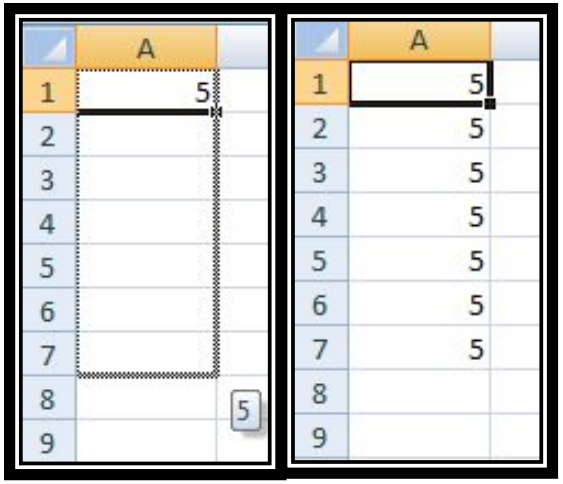
TO INSERT ROWS

TO INSERT COLUMNS

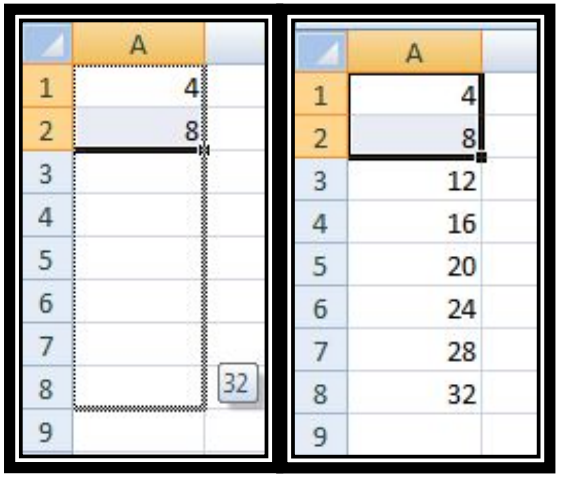
NOTE:

1. The new row always appears above the selected row.
2. The new column always appears to the left of the selected column.

EXCEL AUTOFILL

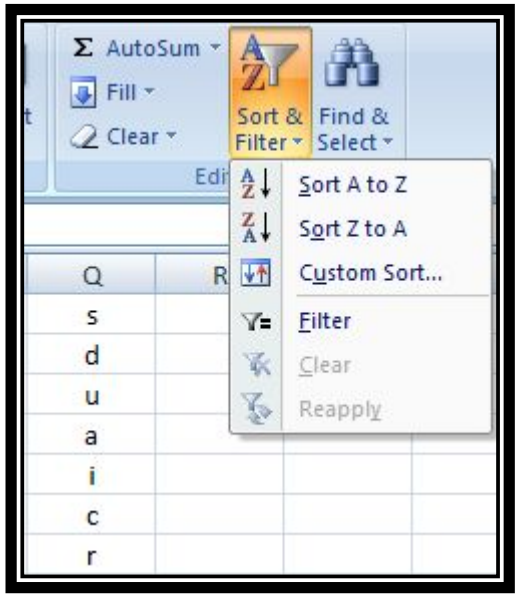


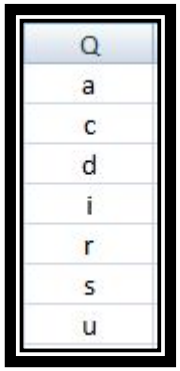
The Excel Autofill feature can be used to populate a range of cells with either a repeat value, a series of values, or just a cell format.



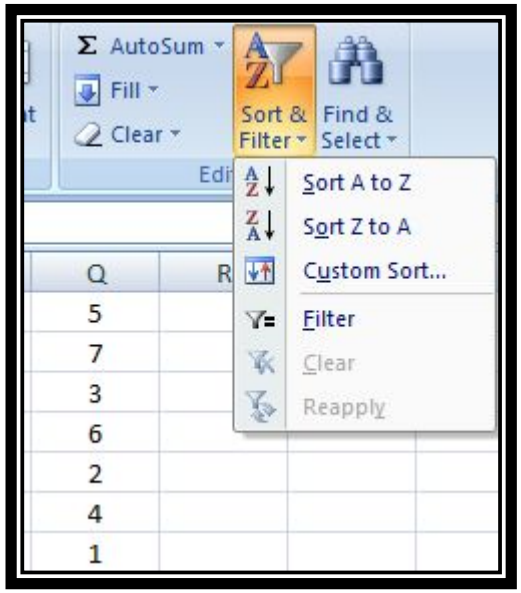
Autofill Dates & Times

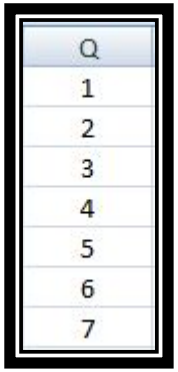
SORTING





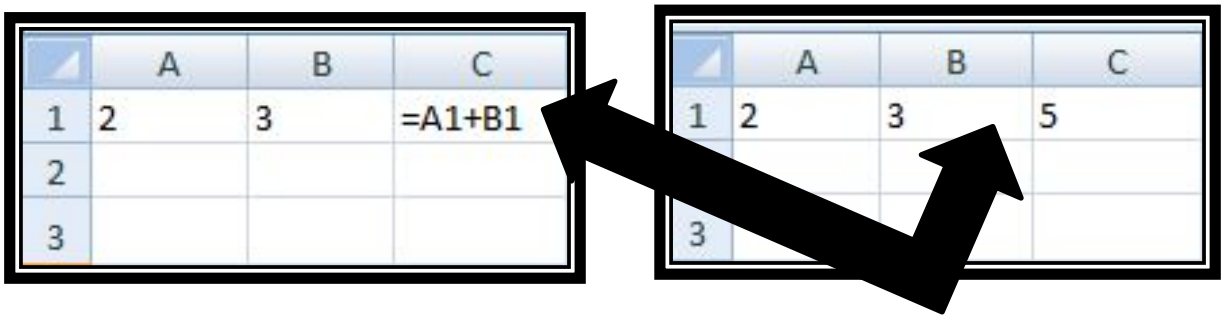
TO SORT IN ALPHABETICAL ORDER



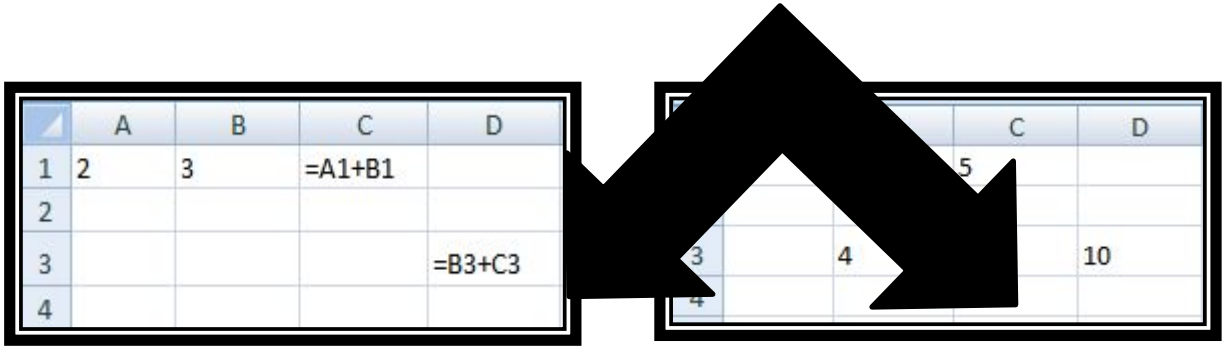


TO SORT FROM SMALLEST TO LARGEST

Cell References in Excel

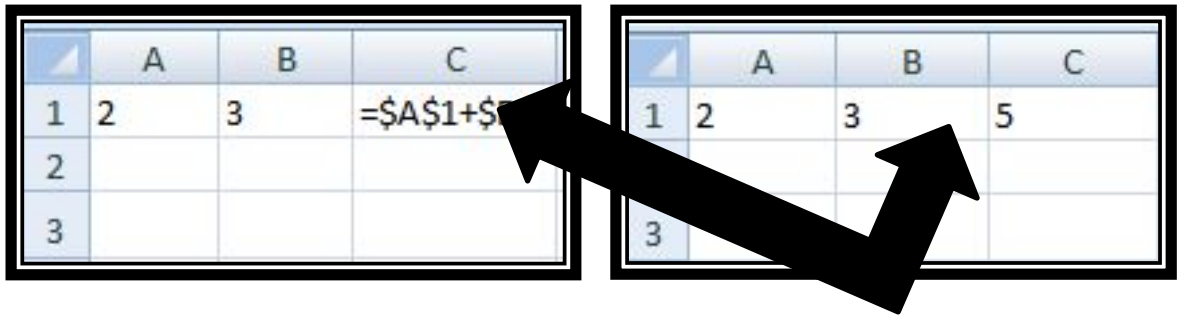


IN CELL (C1) SUM FUNCTION IS USED.
THEN FUNCTION FROM CELL (C1) IS COPY TO CELL (D3).
WHEN THE POSITION OF THE CELL IS CHANGED FROM (C1) TO (D3), THEN THE REFERENCE IS ALSO CHANGED FROM (A1,B1) TO (B3,C3).

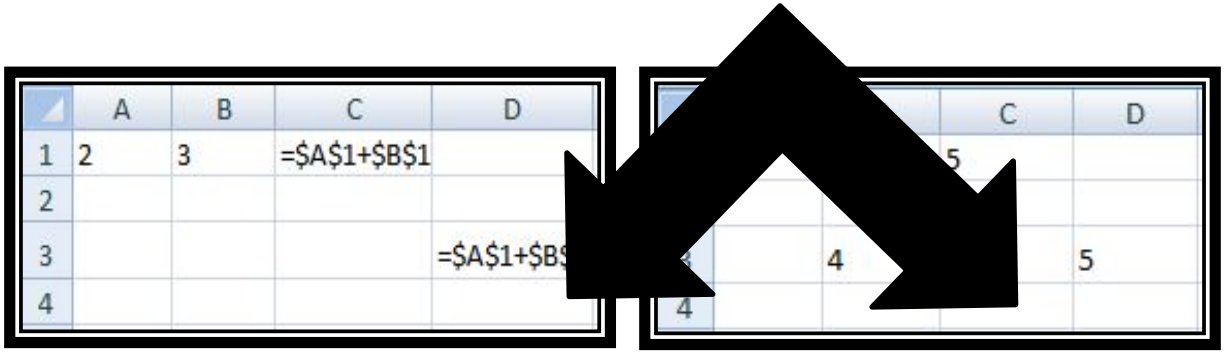


A **RELATIVE CELL REFERENCE** AS (A1) IS BASED ON THE RELATIVE POSITION OF THE CELL. IF THE POSITION OF THE CELL THAT CONTAINS THE REFERENCE CHANGES, THE REFERENCE ITSELF IS CHANGED.

Cell References in Excel

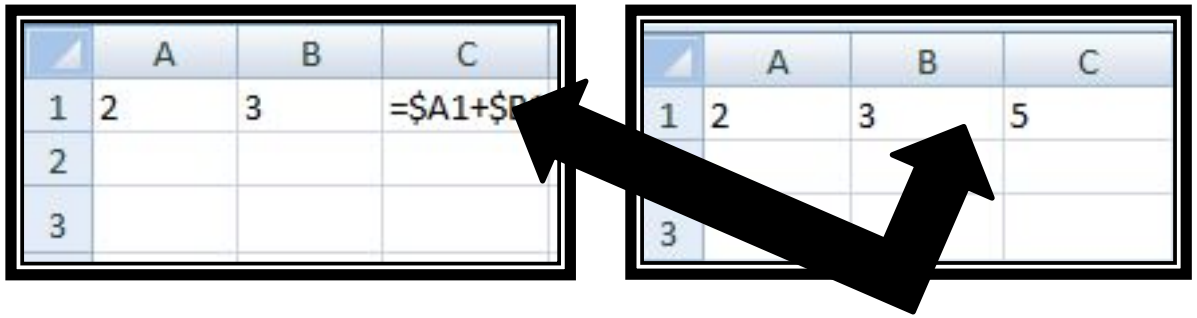


IN CELL (C1) SUM FUNCTION IS USED.
THEN FUNCTION FROM CELL (C1) IS COPY TO CELL (D3).
WHEN THE POSITION OF THE CELL IS CHANGED FROM (C1) TO (D3),THEN THE ABSOLUTE REFERENCE REMAINS THE SAME(A1,B1).

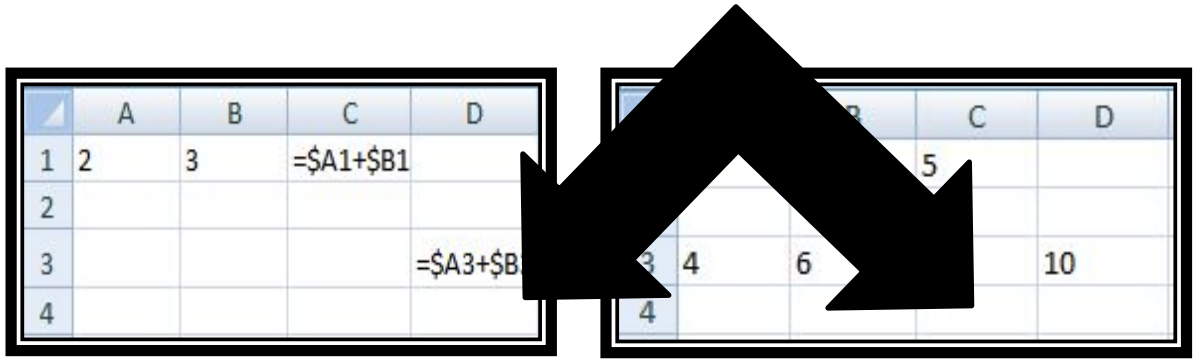


AN **ABSOLUTE CELL REFERENCE** AS (A1) ALWAYS REFERS TO A CELL IN A SPECIFIC LOCATION. IF THE POSITION OF THE CELL THAT CONTAINS THE FORMULA CHANGES, THE ABSOLUTE REFERENCE REMAINS THE SAME.

Cell References in Excel

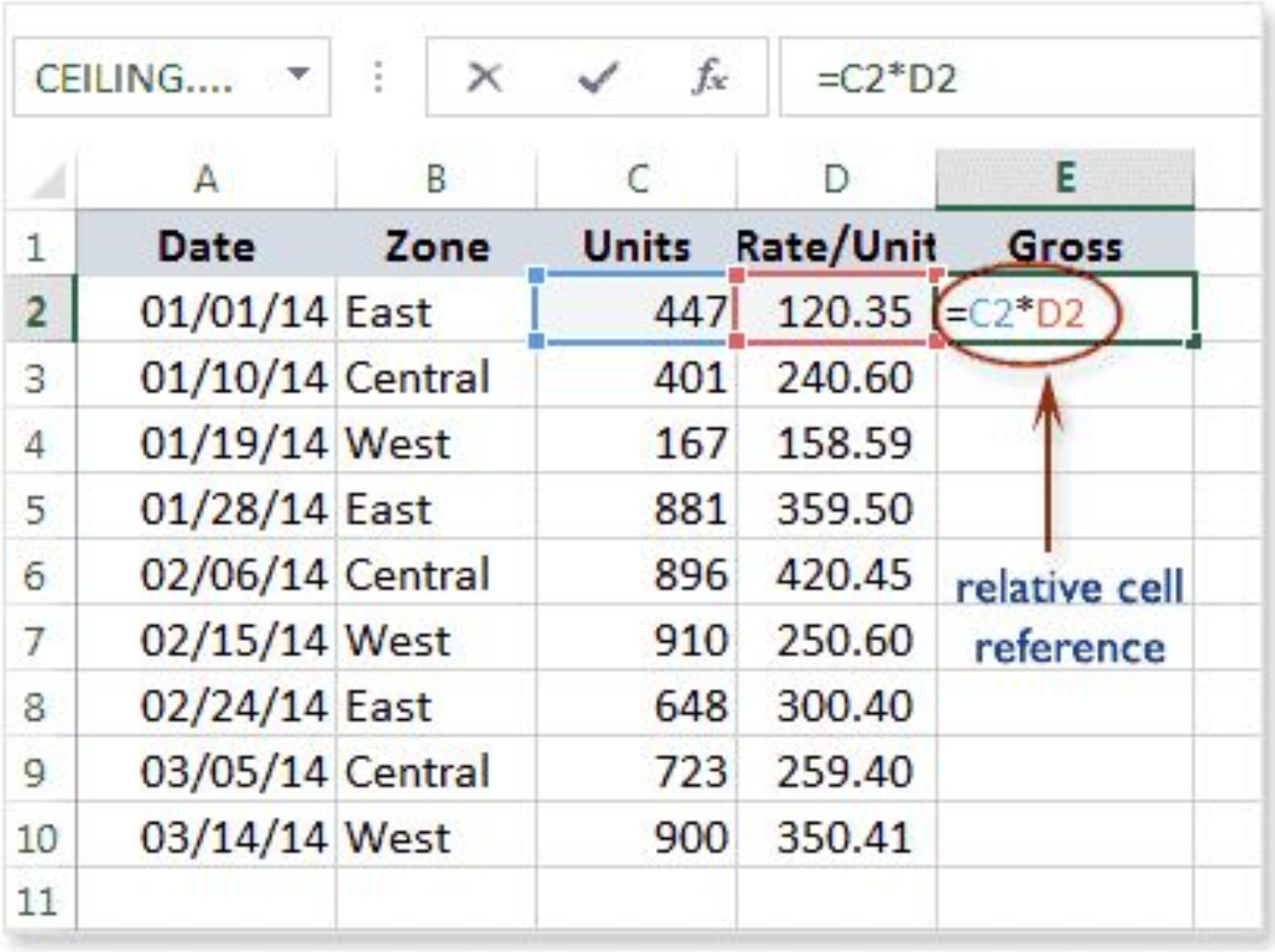


IN CELL (C1) SUM FUNCTION IS USED.
THEN FUNCTION FROM CELL (C1) IS COPY TO CELL (D3).
WHEN THE POSITION OF THE CELL IS CHANGED FROM (C1) TO (D3),THEN ROW REFERENCE IS CHANGED(FROM 1 TO 3) BUT COLUMN REFERENCE REMAINS SAME(A,B).



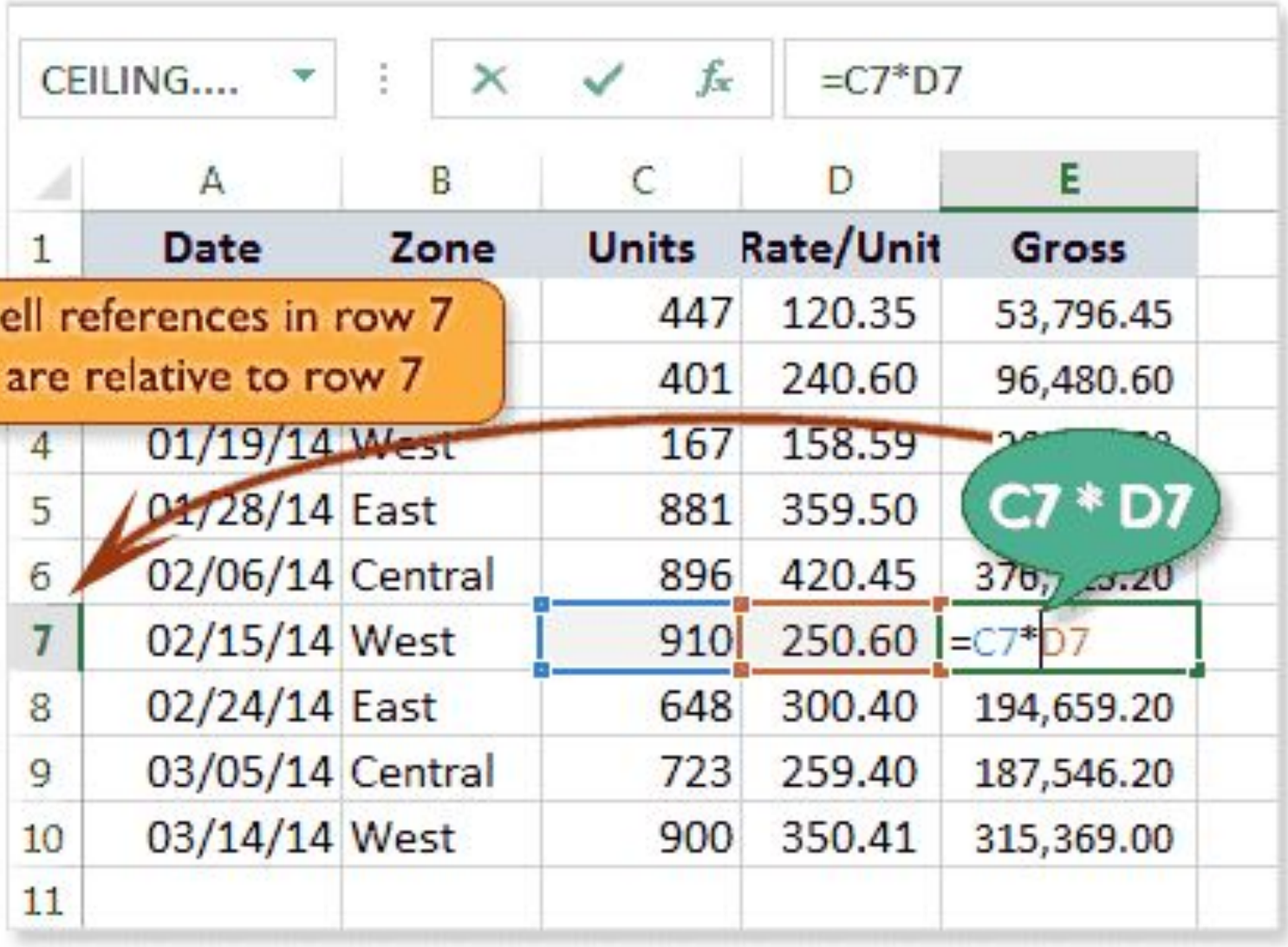
A **MIXED CELL REFERENCE** HAS EITHER AN ABSOLUTE COLUMN AND RELATIVE ROW OR ABSOLUTE ROW AND RELATIVE COLUMN. AN ABSOLUTE COLUMN REFERENCE TAKES THE FORM $A1, $B1. AN ABSOLUTE ROW REFERENCE TAKES THE FORM A$1, B$1.

Relative Cell References



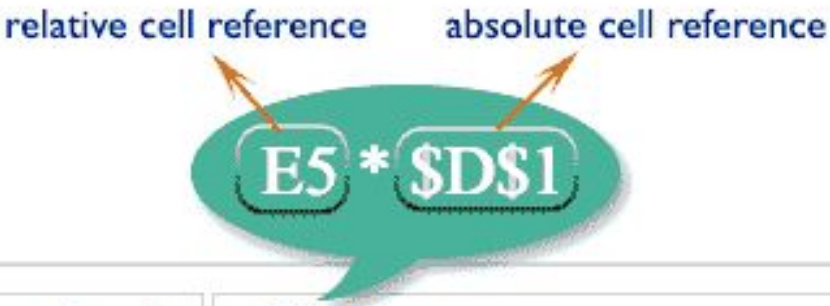
	A	B	C	D	E
1	Date	Zone	Units	Rate/Unit	Gross
2	01/01/14	East	447	120.35	=C2*D2
3	01/10/14	Central	401	240.60	
4	01/19/14	West	167	158.59	
5	01/28/14	East	881	359.50	
6	02/06/14	Central	896	420.45	
7	02/15/14	West	910	250.60	
8	02/24/14	East	648	300.40	
9	03/05/14	Central	723	259.40	
10	03/14/14	West	900	350.41	
11					

Relative Cell References



	A	B	C	D	E
1	Date	Zone	Units	Rate/Unit	Gross
2			447	120.35	53,796.45
3			401	240.60	96,480.60
4	01/19/14	West	167	158.59	
5	01/28/14	East	881	359.50	
6	02/06/14	Central	896	420.45	
7	02/15/14	West	910	250.60	=C7*D7
8	02/24/14	East	648	300.40	194,659.20
9	03/05/14	Central	723	259.40	187,546.20
10	03/14/14	West	900	350.41	315,369.00
11					

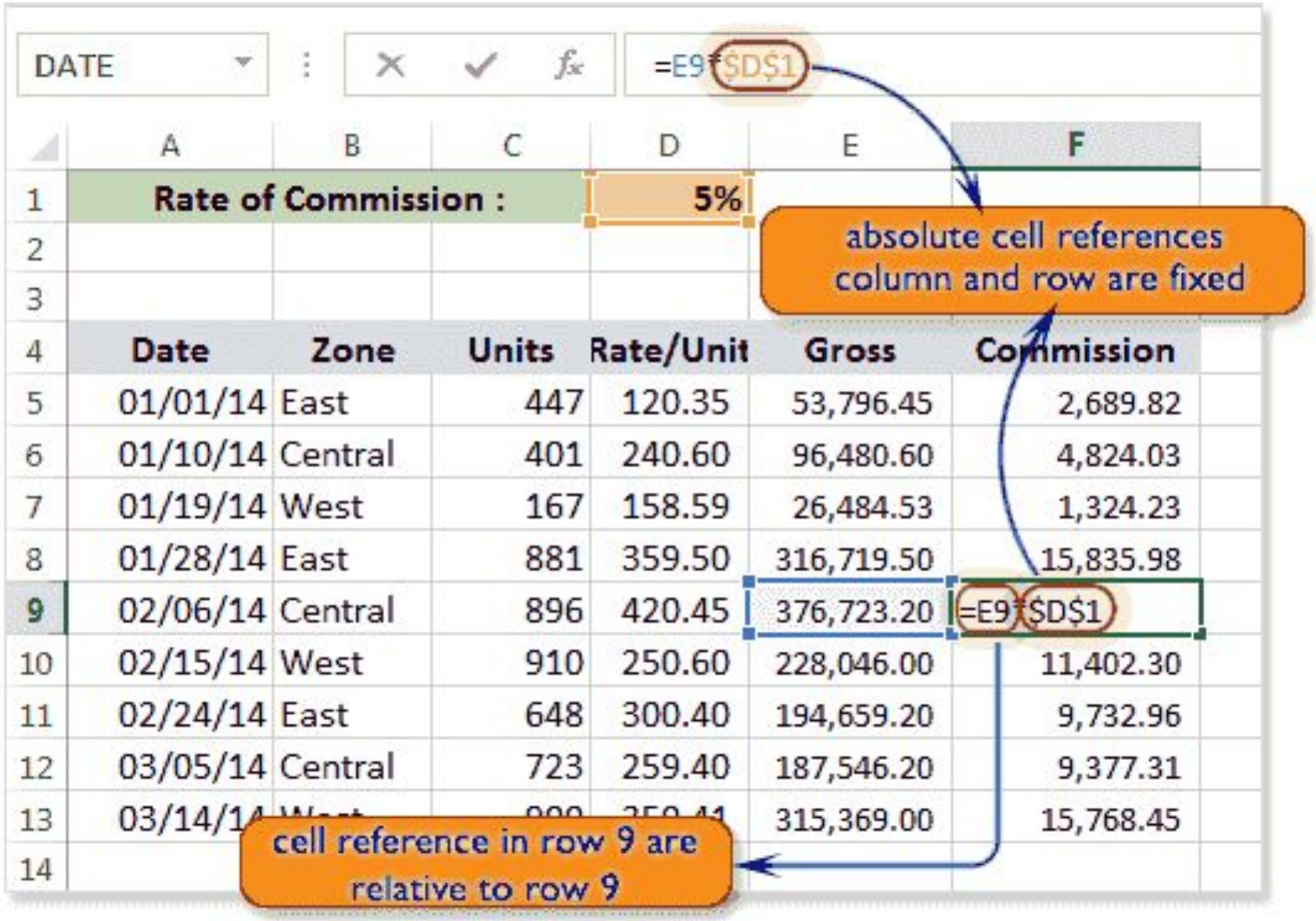
Absolute Cell Reference



CEILING.... | =E5*D1

	A	B	C	D	E	F
1	Rate of Commission :			5%		
2						
3						
4	Date	Zone	Units	Rate/Unit	Gross	Commission
5	01/01/14	East	447	120.35	53,796.45	=E5*D1
6	01/10/14	Central	401	240.60	96,480.60	
7	01/19/14	West	167	158.59	26,484.53	
8	01/28/14	East	881	359.50	316,719.50	
9	02/06/14	Central	896	420.45	376,723.20	
10	02/15/14	West	910	250.60	228,046.00	
11	02/24/14	East	648	300.40	194,659.20	
12	03/05/14	Central	723	259.40	187,546.20	
13	03/14/14	West	900	350.41	315,369.00	
14						

Absolute Cell Reference

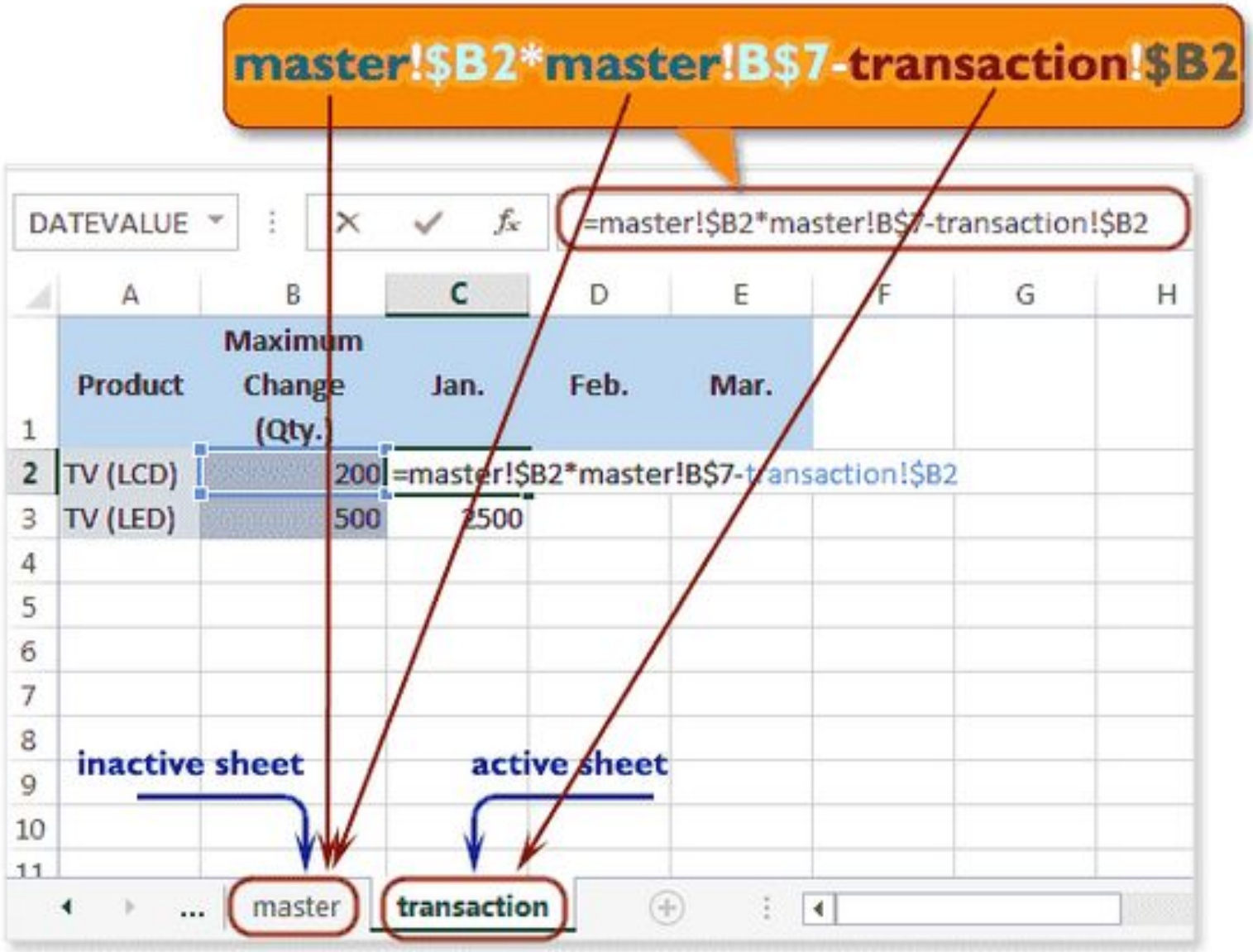


	A	B	C	D	E	F
1	Rate of Commission :			5%		
2						
3						
4	Date	Zone	Units	Rate/Unit	Gross	Commission
5	01/01/14	East	447	120.35	53,796.45	2,689.82
6	01/10/14	Central	401	240.60	96,480.60	4,824.03
7	01/19/14	West	167	158.59	26,484.53	1,324.23
8	01/28/14	East	881	359.50	316,719.50	15,835.98
9	02/06/14	Central	896	420.45	376,723.20	=E9*D1
10	02/15/14	West	910	250.60	228,046.00	11,402.30
11	02/24/14	East	648	300.40	194,659.20	9,732.96
12	03/05/14	Central	723	259.40	187,546.20	9,377.31
13	03/14/14				315,369.00	15,768.45
14						

How using cell references with multiple worksheets ?

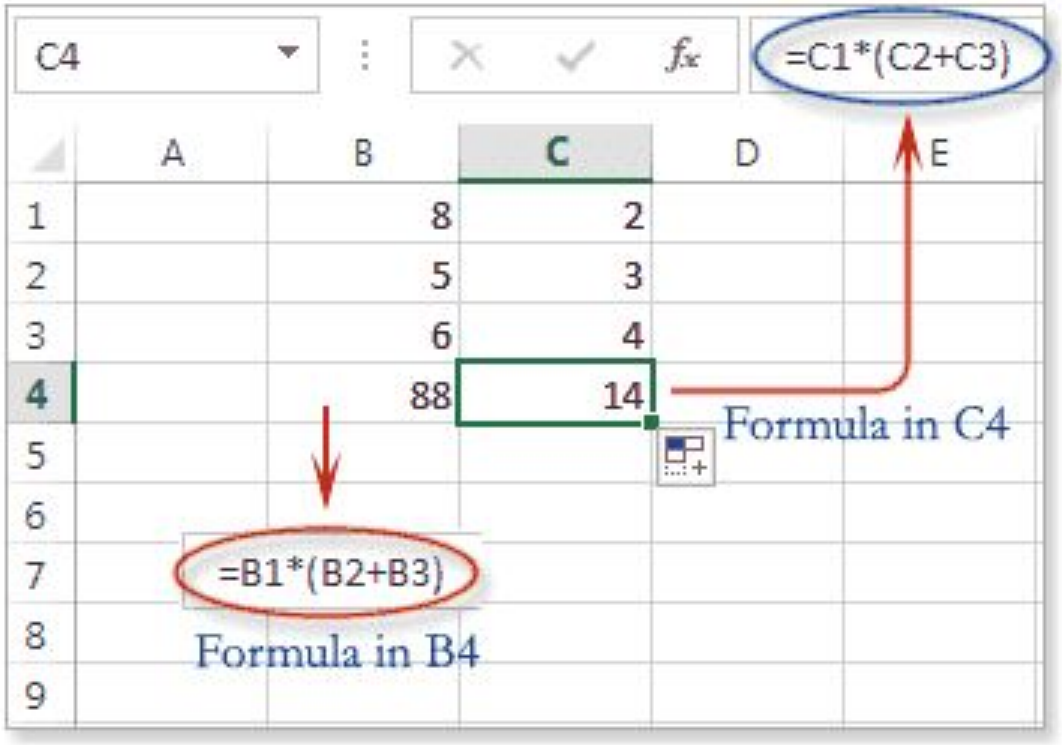
Excel allows cell references not only within one sheet of a workbook but also can update many sheets at a time with the changes of value of one cell of a sheet.

How using cell references with multiple worksheets ?

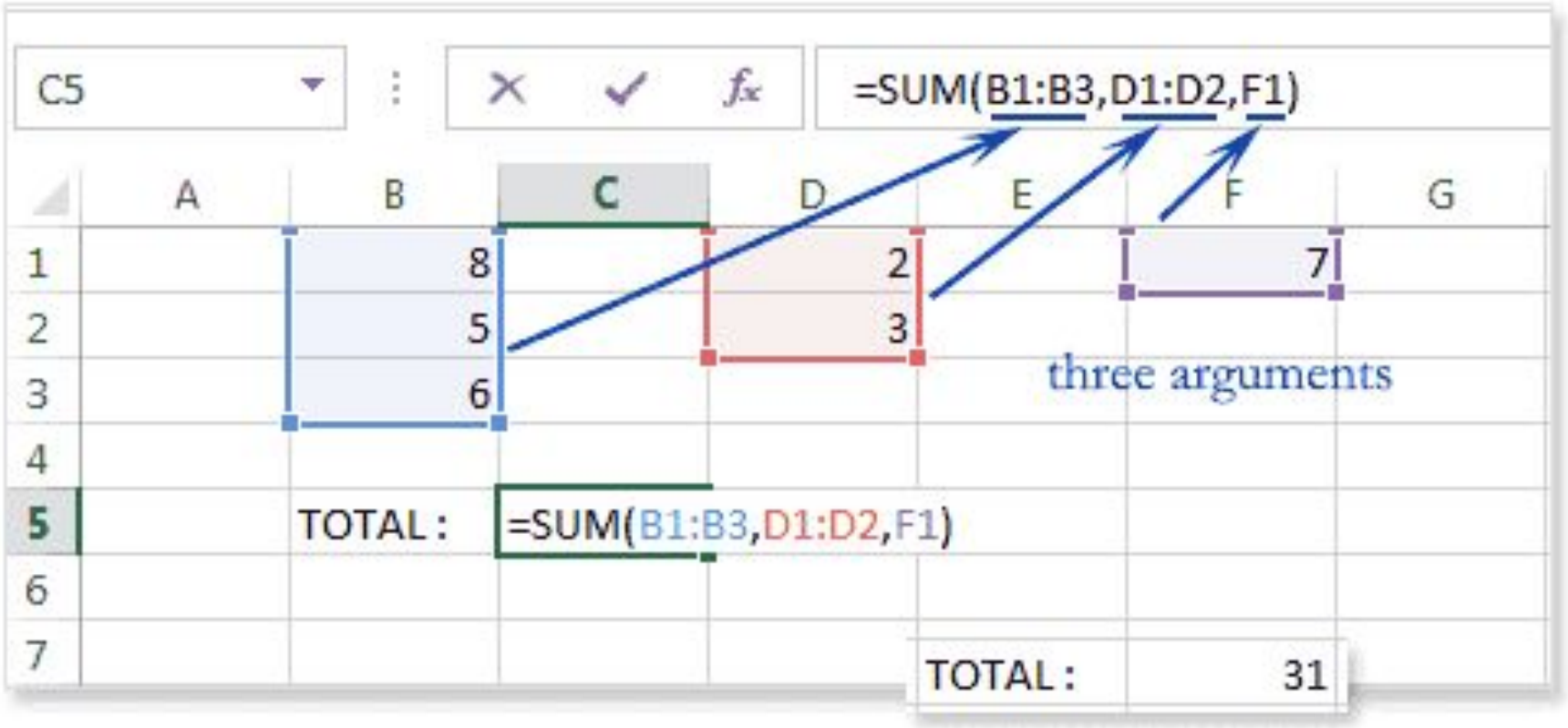


FUNCTIONS BASIC

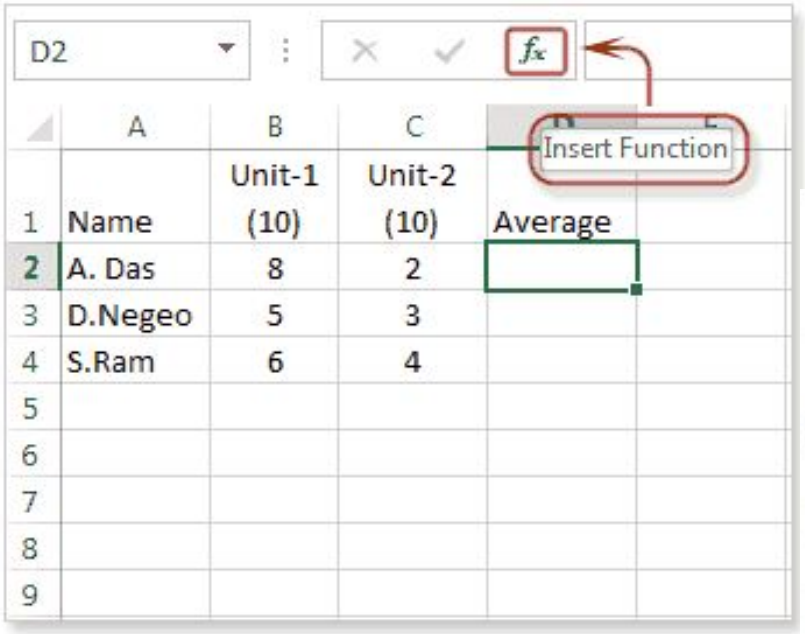
A formula is an expression which calculates the value of one or more cell(s). Formulas always start with an equal sign (=), followed by constants that are numeric values and calculation operators such as plus (+), minus (-), asterisk(*), or forward slash (/) signs.

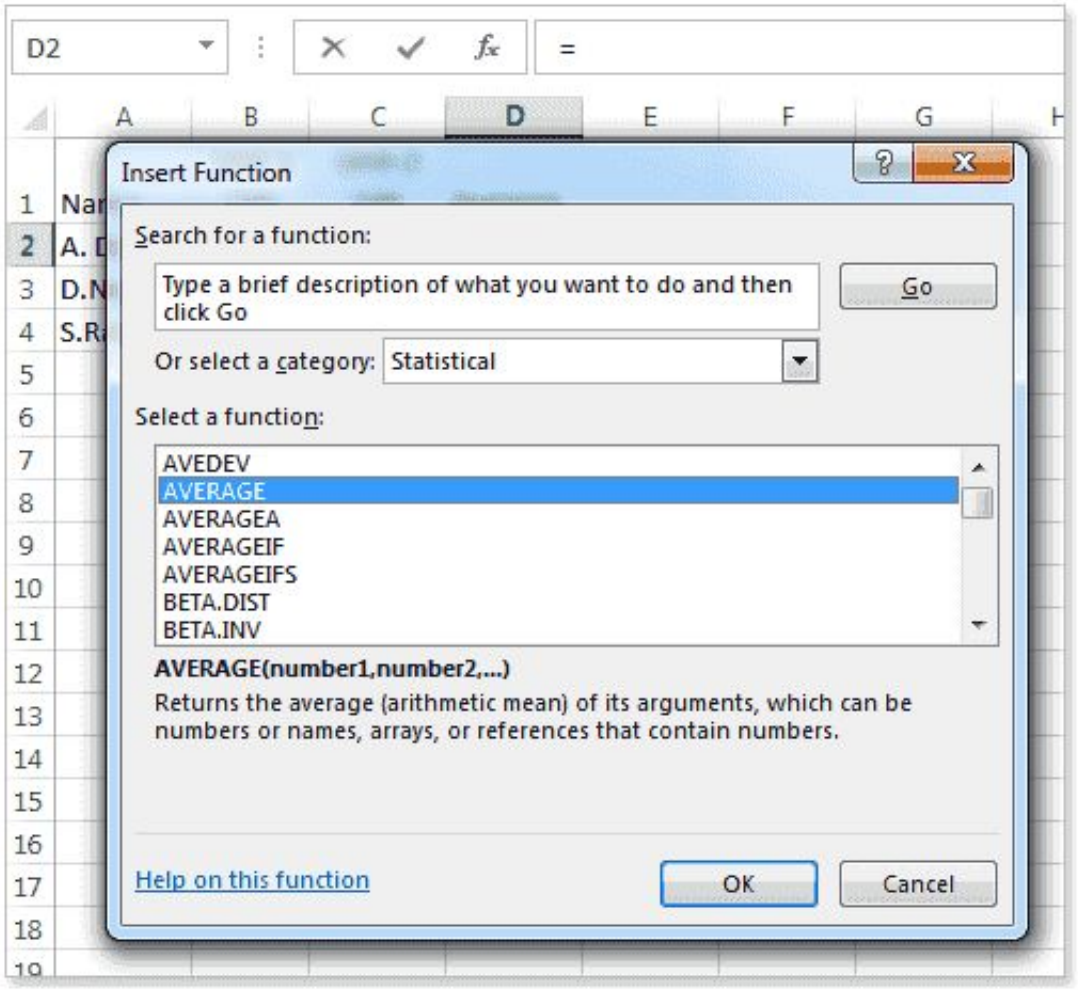


INSERT A FUNCTION



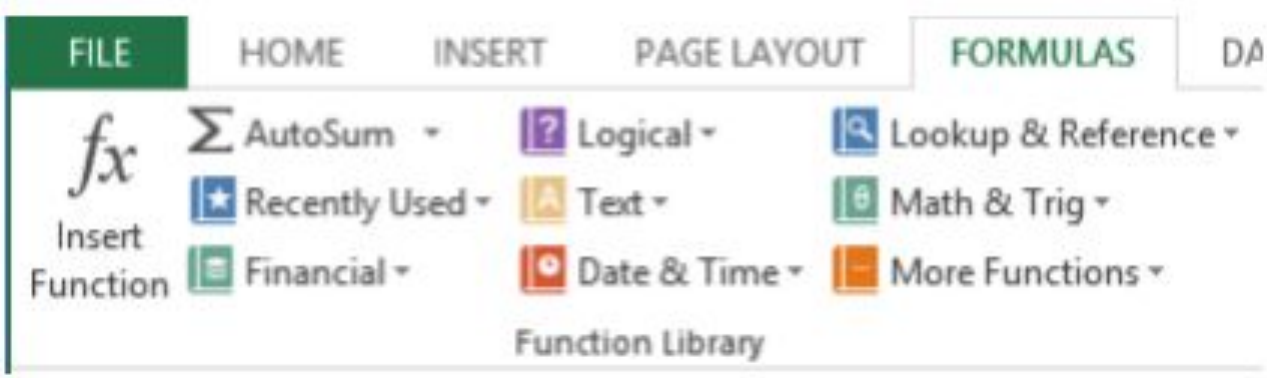
INSERT A FUNCTION





FUNCTIONS

The FORMULAS tab includes a Function Library group. This group provides easy access to the functions that are available in Excel because it divides the functions into categories for ease of reference.



FUNCTIONS

IF FUNCTION

SYNTAX OF IF

=IF(LOGICAL TEXT, VALUE IF TRUE, VALUE IF FALSE)

A	B	C
	FUNCTION	RESULT
5	IF(A2<5,"TRUE","FALSE")	FALSE
	IF(A2>5,"TRUE","FALSE")	FALSE
	IF(A2=5,"TRUE","FALSE")	TRUE
	IF(A2<5,20,10)	10
	IF(A2>=5,20,10)	20
	IF(A2<=5,"A","B")	A
	IF(A2>5,"A","B")	B

LOGICAL TEXT-

Any value or expression that can be evaluated to TRUE or FALSE.

VALUE IF TRUE-

Value that is returned if logical text is TRUE.

VALUE IF FALSE-

Value that is returned if logical text is FALSE.

FUNCTIONS

SUMIF FUNCTION

A	B
5	3
1	7
7	4
3	1
9	8
4	6
2	2
FUNCTION	**RESULT**
SUMIF(A1:A7,"<5")	**10**
SUMIF(A1:A7,"<5",B1:B7)	**16**

WITHOUT SUM_RANGE

WITH SUM_RANGE

SYNTAX OF SUMIF

=SUMIF(RANGE,CRITERIA, [SUM_RANGE])

RANGE-

Range of cells on which conditions are applied.

CRITERIA-

Condition that defines which cell or cells will be added.

SUM RANGE-

Actual cells to sum.

NOTE:-

If sum range is not used then range is used for sum.

FUNCTIONS

SUMIFS FUNCTION

SYNTAX OF SUMIFS

=SUMIFS(sum_range, criteria_range1, criteria1, [criteria_range2, criteria2], …)

	A	B	C	D	E	F
1	Product	Sales	Salesman	**Apples sales**	$100	=SUMIF(A2:A6, "apples", B2:B6)
2	Apples	$30	Seller 1			
3	Oranges	$50	Seller 2	**Apples, Seller 1 sales**	$60	=SUMIFS(B2:B6, A2:A6, "apples",
4	Apples	$30	Seller 1			C2:C6, "seller 1")
5	Oranges	$20	Seller 1			
6	Apples	$40	Seller 2			

COUNT FUNCTIONS

SYNTAX OF FUNCTIONS

1. COUNT(value1, [value2], …)
2. COUNTA(value1, [value2], …)
3. COUNTBLANK(range)
4. COUNTIF(range, criteria)
5. COUNTIFS(criteria_range1, criteria1, [criteria_range2, criteria2]…)

	A	B	C	D	E
1	Data		**Numerical values:**	5	=COUNT(A2:A9)
2	1				
3	10		**Non-empty cells:**	6	=COUNTA(A2:A9)
4					
5	5		**Empty cells:**	2	=COUNTBLANK(A2:A9)
6	text				
7			**>5**	3	=COUNTIF(A2:A9, ">5")
8	01/01/2015				
9	8		**>5 and <10**	1	=COUNTIFS(A2:A9, ">5", A2:A9, "<10")

Excel Math and Trig Functions

ABS Returns the absolute value (i.e. the modulus) of a supplied number.

ROUND Rounds a number to a specified number of digits.
So if you have 4.126 in cell A1 and use the formula **=ROUND(A1,2)** the result will be 4.13 if the value in A1 is 4.123 the result will be 4.12.

MOD Returns the remainder from division.

=MOD(20,6) is 2 because you have 3 times 6 in 20 and the rest is 2.

POWER Returns the result of a number raised to a power.

=POWER(A1,2) will also result in 16 if the value in cell A1 is 4.

SQRT Returns a positive square root.

=SQRT(16) that will result in 4 because 4 multiplied by 4 is 16 or
=SQRT(A1) that will also result in 4 if the value in cell A1 is 16.

Excel Math and Trig Functions

Trigonometry Functions

PI	Returns the constant value of pi
COS	Returns the Cosine of a given angle
ACOS	Returns the Arccosine of a number
SIN	Returns the Sine of a given angle
ASIN	Returns the Arcsine of a number
TAN	Returns the Tangent of a given angle
ATAN	Returns the Arctangent of a given number
COT	Returns the cotangent of an angle (New in Excel 2013)
ACOT	Returns the arccotangent of a number (New in Excel 2013)

Exponents & Logarithms

EXP	Returns *e* raised to a given power
LN	Returns the natural logarithm of a given number
LOG	Returns the logarithm of a given number, to a specified base
LOG10	Returns the base 10 logarithm of a given number

Types of Excel Formula Error

#NULL!	-	Arises when you refer to an intersection of two ranges that do not intersect.
#DIV/0!	-	Occurs when a formula attempts to divide by zero.
#VALUE!	-	Occurs if one of the variables in your formula is of the wrong type (e.g. text value when a numeric value is expected).
#REF!	-	Arises when a formula contains an invalid cell reference.
#NAME?	-	Occurs if Excel does not recognise a formula name or does not recognise text within a formula.
#NUM!	-	Occurs when Excel encounters an invalid number.
#N/A	-	Indicates that a value is not available to a formula.

Types of Excel Formula Error