Computer Application

Third Stage

Lec4

Microsoft Excel

MS.c Mortada Haider

What is Excel Formula?

In Microsoft Excel, a formula is an expression that operates on values in a range of cells. These formulas return a result, to perform calculations such as addition, subtraction, multiplication, and division. In addition to these, you can find out averages and calculate percentages in excel for a range of cells, manipulate date and time values, and do a lot more.

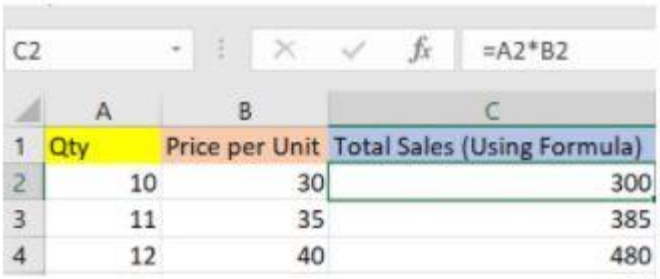
Formulas in Excel: An Overview

- Choose a cell.
- To enter an equal sign, click the cell and type =.
- Enter the address of a cell in the selected cell or select a cell from the list.
- You need to enter an operator.
- Enter the address of the next cell in the selected cell.
- Press Enter.

There is another term that is very familiar to Excel formulas, and that is "function". The two words, "formulas" and "functions" are sometimes interchangeable. They are closely related, but yet different. A formula begins with an equal sign. Meanwhile, functions are used to perform complex calculations that cannot be done manually. Functions in excel have names that reflect their intended use.

The example below shows how we have used the multiplication formula manually with the '*' operator.

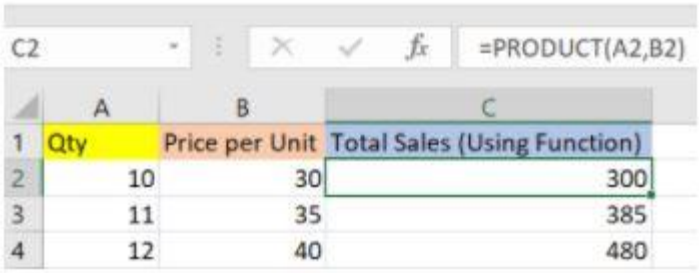
Sample Formula: "=A2*B2"



	A	B	C
1	Qty	Price per Unit	Total Sales (Using Formula)
2	10	30	300
3	11	35	385
4	12	40	480

This example below shows how we have used the function - 'PRODUCT' to perform multiplication. As you can see, we didn't use the mathematical operator here.

Sample Formula: "=PRODUCT(A2,B2)"



	A	B	C
1	Qty	Price per Unit	Total Sales (Using Function)
2	10	30	300
3	11	35	385
4	12	40	480

Excel formulas and functions help you perform your tasks efficiently, and it's time-saving.

1- SUM:

The SUM() function, as the name suggests, gives the total of the selected range of cell values. It performs the mathematical operation which is addition. Here's an example of it below:

Sum "=SUM(C2:C4)"

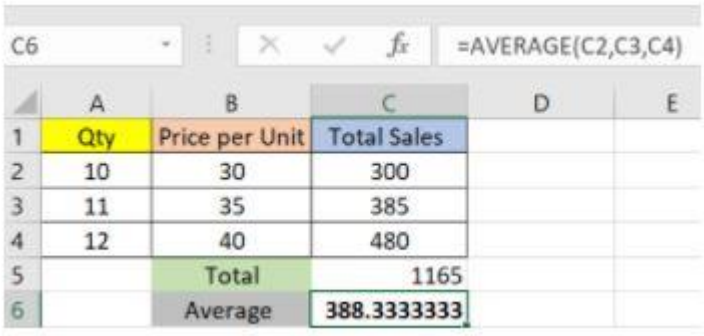
	A	B	C	D
1	Qty	Price per Unit	Total Sales	
2	10	30	300	
3	11	35	385	
4	12	40	480	
5		Total	1165	

As you can see above, to find the total amount of sales for every unit, we had to simply type in the function "=SUM(C2:C4)". This automatically adds up 300, 385, and 480. The result is stored in C5.

2- AVERAGE:

The AVERAGE() function focuses on calculating the average of the selected range of cell values. As seen from the below example, to find the avg of the total sales, you have to simply type in:

AVERAGE =AVERAGE(C2, C3, C4)



	A	B	C	D	E
1	Qty	Price per Unit	Total Sales		
2	10	30	300		
3	11	35	385		
4	12	40	480		
5		Total	1165		
6		Average	388.3333333		

It automatically calculates the average, and you can store the result in your desired location.

3- COUNT:

The function COUNT() counts the total number of cells in a range that contains a number. It does not include the cell, which is blank, and the ones that hold data in any other format apart from numeric.

COUNT =COUNT(C1:C4)

As seen above, here, we are counting from C1 to C4, ideally four cells. But since the COUNT function takes only the cells with numerical values into consideration, the answer is 3 as the cell containing “Total Sales” is omitted here.

If you are required to count all the cells with numerical values, text, and any other data format, you must use the function ‘COUNTA()’. However, COUNTA() does not count any blank cells. To count the number of blank cells present in a range of cells, COUNTBLANK() is used.

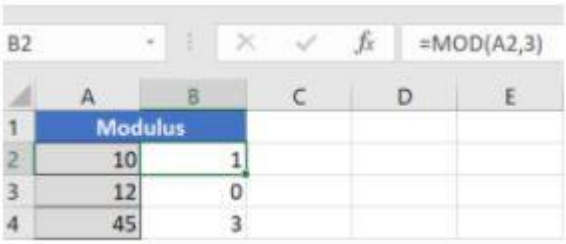
4- MODULUS:

The MOD() function works on returning the remainder when a particular number is divided by a divisor. Let’s now have a look at the examples below for better understanding.

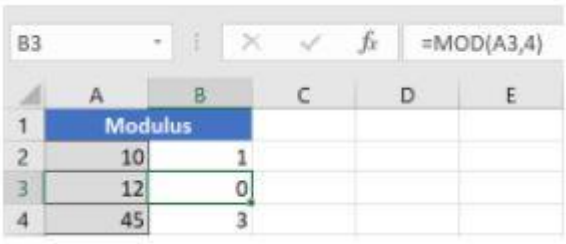
- In the first example, we have divided 10 by 3. The remainder is calculated using the function

MODULUS =MOD(A2,3)

- The result is stored in B2. We can also directly type “=MOD(10,3)” as it will give the same answer.

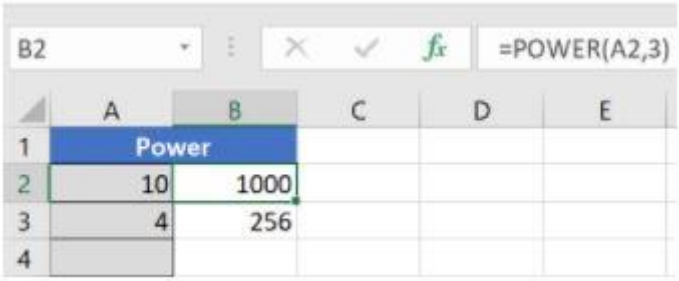


Similarly, here, we have divided 12 by 4. The remainder is 0 is, which is stored in B3.



5- POWER:

The function "Power()" returns the result of a number raised to a certain power. Let's have a look at the examples shown below:



As you can see above, to find the power of 10 stored in A2 raised to 3, we have to type:

Power =POWER (A2,3)

This is how power function works in Excel.