

SUMIF function

You use the **SUMIF** function to sum the values in a range that meet criteria that you specify. For example, suppose that in a column that contains numbers, you want to sum only the values that are larger than 5. You can use the following formula: **=SUMIF(B2:B25,">5")**

Tips:

- If you want, you can apply the criteria to one range and sum the corresponding values in a different range. For example, the formula **=SUMIF(B2:B5, "John", C2:C5)** sums only the values in the range C2:C5, where the corresponding cells in the range B2:B5 equal "John."
- To sum cells based on multiple criteria, follow [SUMIFS function](#).

Important: The SUMIF function returns incorrect results when you use it to match strings longer than 255 characters or to the string **#VALUE!**

Syntax

SUMIF(range, criteria, [sum_range])

The **SUMIF** function syntax has the following arguments:

- **range** Required. The range of cells that you want evaluated by criteria. Cells in each range must be numbers or names, arrays, or references that contain numbers. Blank and text values are ignored. The selected range may contain dates in standard Excel format (examples below).
- **criteria** Required. The criteria in the form of a number, expression, a cell reference, text, or a function that defines which cells will be added. Wildcard characters can be included - a question mark (?) to match any single character, an asterisk (*) to match any sequence of

characters. If you want to find an actual question mark or asterisk, type a tilde (~) preceding the character.

For example, criteria can be expressed as 32, ">32", B5, "3?", "apple*", "*~?", or TODAY().

Important: Any text criteria or any criteria that includes logical or mathematical symbols must be enclosed in double quotation marks ("). If the criteria is numeric, double quotation marks are not required.

- **sum_range** Optional. The actual cells to add, if you want to add cells other than those specified in the **range** argument. If the **sum_range** argument is omitted, Excel adds the cells that are specified in the **range** argument (the same cells to which the criteria is applied).

Sum_range should be the same size and shape as **range**. If it isn't, performance may suffer, and the formula will sum a range of cells that starts with the first cell in **sum_range** but has the same dimensions as **range**. For example:

range	sum_range	Actual summed cells
A1:A5	B1:B5	B1:B5
A1:A5	B1:K5	B1:B5

Examples

Example 1

Copy the example data in the following table, and paste it in cell A1 of a new Excel worksheet. For formulas to show results, select them, press F2, and then press Enter. If you need to, you can adjust the column widths to see all the data.

Property Value	Commission	Data
\$100,000	\$7,000	\$250,000
\$200,000	\$14,000	

Property Value	Commission	Data
\$300,000	\$21,000	
\$400,000	\$28,000	
Formula	Description	Result
=SUMIF(A2:A5,">160000",B2:B5)	Sum of the commissions for property values over \$160,000.	\$63,000
=SUMIF(A2:A5,">160000")	Sum of the property values over \$160,000.	\$900,000
=SUMIF(A2:A5,300000,B2:B5)	Sum of the commissions for property values equal to \$300,000.	\$21,000
=SUMIF(A2:A5,">" & C2,B2:B5)	Sum of the commissions for property values greater than the value in C2.	\$49,000

Example 2

Copy the example data in the following table, and paste it in cell A1 of a new Excel worksheet. For formulas to show results, select them, press F2, and then press Enter. If you need to, you can adjust the column widths to see all the data.

Category	Food	Sales
Vegetables	Tomatoes	\$2,300
Vegetables	Celery	\$5,500
Fruits	Oranges	\$800
	Butter	\$400
Vegetables	Carrots	\$4,200
Fruits	Apples	\$1,200
Formula	Description	Result
=SUMIF(A2:A7,"Fruits",C2:C7)	Sum of the sales of all foods in the "Fruits" category.	\$2,000
=SUMIF(A2:A7,"Vegetables",C2:C7)	Sum of the sales of all foods in the "Vegetables" category.	\$12,000

Category	Food	Sales
=SUMIF(B2:B7,"*es",C2:C7)	Sum of the sales of all foods that end in "es" (Tomatoes, Oranges, and Apples).	\$4,300
=SUMIF(A2:A7,"",C2:C7)	Sum of the sales of all foods that do not have a category specified.	\$400

SUMIFS function

The SUMIFS function, one of the [math and trig functions](#), adds all of its arguments that meet multiple criteria. For example, you would use SUMIFS to sum the number of retailers in the country who (1) reside in a single zip code and (2) whose profits exceed a specific dollar value.

Syntax

SUMIFS(sum_range, criteria_range1, criteria1, [criteria_range2, criteria2], ...)

- =SUMIFS(A2:A9,B2:B9,"=A*",C2:C9,"Tom")
- =SUMIFS(A2:A9,B2:B9,"<>Bananas",C2:C9,"Tom")

Argument name	Description
Sum_range (required)	The range of cells to sum.
Criteria_range1 (required)	The range that is tested using Criteria1 . Criteria_range1 and Criteria1 set up a search pair whereby a range is searched for specific criteria. Once items in the range are found, their corresponding values in Sum_range are added.
Criteria1 (required)	The criteria that defines which cells in Criteria_range1 will be added. For example, criteria can be entered as 32 , >32 , B4 , "apples" , or "32" .

Argument name	Description
Criteria_range2, criteria2, ... (optional)	Additional ranges and their associated criteria. You can enter up to 127 range/criteria pairs.

Examples

To use these examples in Excel, drag to select the data in the table, right-click the selection, and pick **Copy**. In a new worksheet, right-click cell A1 and pick **Match Destination Formatting** under **Paste Options**.

Quantity Sold	Product	Salesperson
5	Apples	Tom
4	Apples	Sarah
15	Artichokes	Tom
3	Artichokes	Sarah
22	Bananas	Tom
12	Bananas	Sarah
10	Carrots	Tom
33	Carrots	Sarah
Formula	Description	
=SUMIFS(A2:A9, B2:B9, "=A*", C2:C9, "Tom")	Adds the number of products that begin with A and were sold by Tom . It uses the wildcard character * in Criteria1 , " =A* " to look for matching product names in Criteria_range1 B2:B9, and looks for the name " Tom " in Criteria_range2 C2:C9. It then adds the numbers in Sum_range A2:A9 that meet both conditions. The result is 20.	
=SUMIFS(A2:A9, B2:B9, "<>Bananas", C2:C9, "Tom")	Adds the number of products that aren't bananas and are sold by Tom. It excludes bananas by using <> in the Criteria1 , " <>Bananas ", and looks for the	

Quantity Sold	Product	Salesperson
	name "Tom" in Criteria_range 2 C2:C9. It then adds the numbers in Sum_range A2:A9 that meet both conditions. The result is 30.	

Common Problems

Problem	Description
0 (Zero) is shown instead of the expected result.	Make sure Criteria1,2 are in quotation marks if you are testing for text values, like a person's name.
The result is incorrect when Sum_range has TRUE or FALSE values.	TRUE and FALSE values for Sum_range are evaluated differently, which may cause unexpected results when they're added. Cells in Sum_range that contain TRUE evaluate to 1. Those that contain FALSE evaluate to 0 (zero).

Best practices

Do this	Description
Use wildcard characters.	Using wildcard characters like the question mark (?) and asterisk (*) in criteria1,2 can help you find matches that are similar but not exact. A question mark matches any single character. An asterisk matches any sequence of characters. If you want to find an actual question mark or asterisk, type a tilde (~) in front of the question mark. For example, =SUMIFS(A2:A9, B2:B9, "=A*", C2:C9, "To?") will add all instances with name that begin with "To" and ends with a last letter that could vary.
Understand the difference between	The order of arguments differs between SUMIFS and SUMIF. In particular, the sum_range argument is the first argument in

Do this	Description
SUMIF and SUMIFS.	<p>SUMIFS, but it is the third argument in SUMIF. This is a common source of problems using these functions.</p> <p>If you're copying and editing these similar functions, make sure you put the arguments in the correct order.</p>
Use the same number of rows and columns for range arguments.	<p>The Criteria_range argument must contain the same number of rows and columns as the Sum_range argument.</p>