

How can I use the SUMIFS function in Excel to calculate the sum of a range of cells based on multiple criteria?

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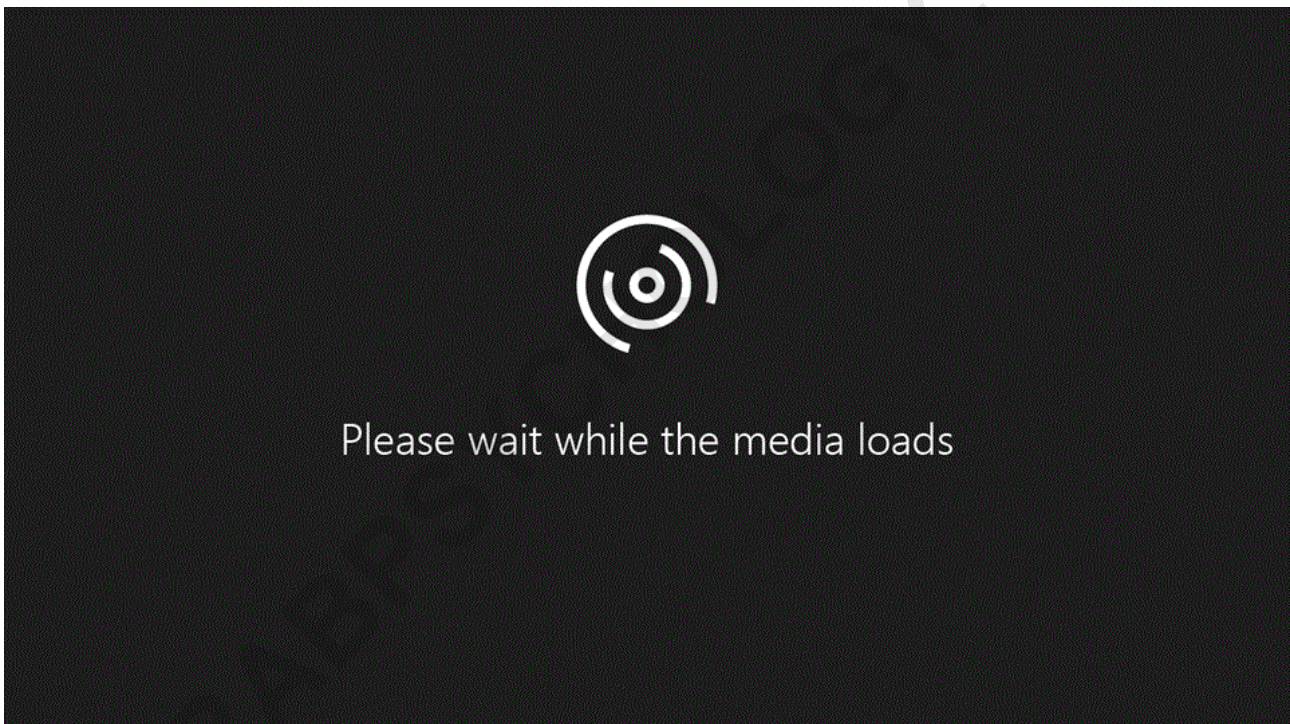
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The SUMIFS function in Excel is a powerful tool that allows users to calculate the sum of a range of cells based on multiple criteria. This function takes into account both numeric and non-numeric criteria, making it a versatile and efficient way to perform calculations. By specifying the range of cells to be evaluated and the criteria to be met, the SUMIFS function can accurately add up only the values that meet all specified conditions. This feature is especially useful when dealing with large data sets and allows for precise and customizable calculations. Using the SUMIFS function can greatly streamline data analysis and simplify complex calculations in Excel.

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, , ...)

`=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.

Argument name	Description
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 .
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.	

Quantity Sold	Product	Salesperson
=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 name " Tom " in Criteria_range2 C2:C9. It then adds the numbers in Sum_range A2:A9 that meet both conditions. The result is 30.	

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 SUMIF and SUMIFS.	The order of arguments differ between SUMIFS and SUMIF. In particular, the sum_range argument is the first argument in SUMIFS, but it is the third argument in SUMIF. This is a common source of problems using these functions. If you're copying and editing these similar functions, make sure you put the arguments in the correct order.
Use the same number of rows and columns for range arguments.	The Criteria_range argument must contain the same number of rows and columns as the Sum_range argument.

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Need more help?

You can always ask an expert in the [Excel Tech Community](#) or get support in [Communities](#).

See Also

[See a video on how to use advanced IF functions like SUMIFS](#)

[The SUMIF function adds only the values that meet a single criteria](#)

[The SUMSQ function sums multiple values after it performs a mathematical square operation on each of them](#)

[The COUNTIF function counts only the values that meet a single criteria](#)

[The COUNTIFS function counts only the values that meet multiple criteria](#)

[IFS function \(Microsoft 365, Excel 2016 and later\)](#)

[Overview of formulas in Excel](#)

[How to avoid broken formulas](#)

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[Math & Trig functions](#)

[Excel functions \(alphabetical\)](#)

[Excel functions \(by Category\)](#)

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