

# How can I use the COMBINA function in Google Sheets to combine a given number of items from a set without repeating any items?

Authored by  
**stats writer**

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The COMBINA function in Google Sheets allows users to efficiently combine a specified number of items from a set without any repeats. This function is useful when creating lists or collections that require a specific number of unique items. By using the COMBINA function, users can easily create varied combinations without the hassle of manually checking for duplicates. This feature streamlines the process of creating organized and diverse lists, making it a valuable tool for data management and organization.

## COMBINA function

The COMBINA function returns the number of ways to choose some number of objects from a pool of a given size of objects, including ways to choose the same object multiple times (also known as choosing with replacement).

### Parts of a COMBINA function

COMBINA(n, k)

Part	Description	Notes
n	The size pool of objects to choose from.	Given n values should be greater than or equal to 0.
k	The number of objects to choose.	Given k values should be greater than or equal to 0.

### Sample formulas

COMBINA(5, 3)

COMBINA(A1, B1)

### Notes

The order of the chosen objects within the COMBINA function doesn't matter.  $COMBINA(n, k)$  is

$$\binom{n+k-1}{k}$$

equivalent to  $COMBIN(n+k-1)$ , which can be read as "(n+k-1)choose k" or  $COMBINA(n, k)$  is also equivalent to  $FACT(n+k-1) / (FACT(k) * FACT(n-1))$ , but supports larger numbers as arguments. If a number (or reference to a number) with a decimal part is provided to COMBINA, the decimal part is silently truncated before calculation. If the sum of arguments n+k is greater than or equal to 1031, a #NUM! error is returned.

## Examples

In the following example with a pool of 2 objects (for example, A and B), there are 3 possible chosen combinations: (A, B), (A, A), and (B, B):

	A	B
1	<b>Formula</b>	<b>Result</b>
2	=COMBINA(2, 2)	3

In this example with a pool of 5 objects, there are 35 possible chosen combinations of 3 objects:

	A	B
1	<b>Formula</b>	<b>Result</b>
2	=COMBINA(5, 3)	35

## Related functions

FACT: The FACT function returns the factorial of a number.COMBIN: The COMBIN function returns the number of ways to choose some number of objects from a pool of a given size of objects.