

How to Calculate the Median in Google Sheets, Ignoring Zeros

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To accurately determine the median value within your Google Sheets data, it is often necessary to exclude zero values. Zeroes can severely skew the result, especially in data sets where zero represents missing data, irrelevant attempts, or non-participation, rather than a true quantitative measurement. By employing a combination of powerful functions--specifically the MEDIAN function combined with filtering logic--you can calculate the true middle value of a set of numbers without the distorting influence of zero entries. This technique is indispensable when analyzing data sets like sales metrics, performance scores, or attendance records, where zeroes might not be statistically relevant to the central tendency calculation.

Google Sheets: Calculate Median Value and Ignore Zeros

The Essential Formula for Excluding Zeroes

To effectively calculate the median of a specific range while systematically excluding any values equal to zero, you must leverage the power of the ARRAYFORMULA. The array function is mandatory because it enables the MEDIAN function to process the filtered results generated by the IF function, treating the entire process as a single, dynamic operation across the specified range. This formula is fundamental for maintaining data integrity when calculating measures of central tendency.

You can use the following syntax in Google Sheets to calculate the median value of a particular range and ignore any values equal to zero:

```
=ARRAYFORMULA(MEDIAN(IF(B2:B10<>0,B2:B10)))
```

In this specific instantiation, the formula is instructed to calculate the median value across the cell range **B2:B10**. Crucially, the internal logic ensures that any cell within this range containing a value of zero is completely disregarded during the final calculation phase. This methodology ensures a statistically accurate reflection of the central score among non-zero entries.

Deconstructing the Formula Components

Understanding how each function within the nested formula contributes to the final result is essential for effective data manipulation in Google Sheets. The power of this solution lies in its combination of conditional logic and array processing. We break down the roles of the three primary functions involved:

ARRAYFORMULA: This wrapper function forces the evaluation of the inner logic across the entire

specified range, returning the resulting filtered array to the MEDIAN function. It is necessary because the IF statement produces an array of results, which standard functions cannot process across a range without this wrapper.

MEDIAN function: This is the core statistical function responsible for identifying the middle value in a numerically sorted list. It takes the filtered output supplied by the IF statement. By design, the MEDIAN function naturally ignores blank cells or non-numeric values, which is the mechanism used to exclude the zeros.

IF function (B2:B10 <> 0, B2:B10): This component executes the conditional filtering. It checks every cell in the range B2:B10. If the cell value is **not equal to zero (<> 0)**, it returns the original value. If the value is zero, the IF statement returns a blank value, which is precisely what the encompassing MEDIAN function subsequently ignores.

Example Scenario: Basketball Player Points Data

To demonstrate the practical application of this filtered median calculation, let us consider a sample dataset. Suppose we are tracking the points scored by basketball players across various teams. It is plausible that some players, perhaps due to injury or absence, have recorded zero points, but we only want the median to reflect the performance of players who actively scored points.

Our hypothetical data set contains information about points scored by players:

	A	B	C	D
1	Team	Points		
2	Mavs	22		
3	Warriors	29		
4	Cavs	0		
5	Heat	13		
6	Thunder	18		
7	Rockets	29		
8	Spurs	24		
9	Lakers	0		
10	Nuggets	14		
11				
12				
13				
14				
15				
16				
17				

We will first analyze what happens when the standard, unfiltered MEDIAN function is applied to illustrate the necessity of the filtering technique.

Standard Median Calculation (Including Zeroes)

If we proceed with the standard, straightforward calculation using only the **MEDIAN** function on the entire range **B2:B10**, the formula is executed without any conditional logic:

=MEDIAN(B2:B10)

This approach instructs Google Sheets to evaluate every single numerical entry within the specified column, regardless of its value. The resultant spreadsheet view following this calculation is shown below:

D2 fx =MEDIAN(B2:B10)

	A	B	C	D
1	Team	Points		Median Points
2	Mavs	22		18
3	Warriors	29		
4	Cavs	0		
5	Heat	13		
6	Thunder	18		
7	Rockets	29		
8	Spurs	24		
9	Lakers	0		
10	Nuggets	14		
11				
12				
13				
14				

By default, Google Sheets considers every value in the range when calculating the median. To arrive at the result, the application internally sorts the points values from smallest to largest and selects the middle element:

Points values (Unfiltered): 0, 0, 13, 14, **18**, 22, 24, 28, 29

In this unfiltered scenario involving nine data points, the middle value is the fifth value, which is **18**. While mathematically correct based on the input data, this figure might misrepresent the typical scoring performance if the zeroes are considered non-data entries.

Applying the Exclusion Formula for Accurate Results

To correct for the potentially misleading impact of the zero scores, we implement the combined array formula designed to calculate the median while strictly ignoring all values equal to zero. This formula is entered into the desired output cell, such as cell D2:

=ARRAYFORMULA(MEDIAN(IF(B2:B10<>0,B2:B10)))

Upon entering this advanced formula, the underlying logic successfully filters the input array, and the MEDIAN function then computes the middle value only from the remaining positive scores. The resulting calculation is shown below:

D2 fx =ARRAYFORMULA(MEDIAN(IF(B2:B10<>0,B2:B10)))

	A	B	C	D
1	Team	Points		Median Points (Ignore 0)
2	Mavs	22		22
3	Warriors	29		
4	Cavs	0		
5	Heat	13		
6	Thunder	18		
7	Rockets	29		
8	Spurs	24		
9	Lakers	0		
10	Nuggets	14		
11				
12				
13				
14				
15				

Analyzing the Filtered Median Value

When the formula executes, the inner IF function strips the data down to only the non-zero values. The array passed to the **MEDIAN** function is significantly smaller and more representative of active performance. This demonstrates the critical importance of conditional filtering when specific values, such as zero, should be treated as exclusions rather than inputs.

The new, filtered set of points values that the **MEDIAN** function operates on is:

Points values (Filtered): 13, 14, 18, **22**, 24, 28, 29

In this revised list, we have seven total data points. Since this is an odd number, the median is the middle value, which is the fourth score in the sorted list. Therefore, when accurately ignoring values equal to zero, the calculated median value shifts upwards to **22**. This revised result provides a more robust and accurate measure of central tendency for the basketball players' actual scoring output.

Further Advanced Data Manipulation Techniques

Mastering the combination of ARRAYFORMULA, the IF function, and statistical functions like **MEDIAN** opens the door to numerous advanced data analysis possibilities in Google Sheets. Similar conditional logic can be applied to exclude outliers, ignore negative numbers, or filter based

on criteria in adjacent columns.

If your analytical needs extend beyond calculating the median, these structural principles can be adapted for calculating the average (mean) while ignoring zeroes (using the **AVERAGE** function), or counting specific occurrences (**COUNTIF**). Exploring these tutorials will further enhance your proficiency in complex spreadsheet operations:

How to calculate the mean while ignoring zeros.

Methods for counting specific text instances.

Advanced techniques for conditional formatting based on data characteristics.

The following tutorials explain how to perform other common tasks in Google Sheets:

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