How can I calculate the harmonic mean of a set of numbers in Excel?

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The harmonic mean is a statistical measure that is used to find the average of a set of numbers. In Excel, it can be calculated by using the HARMMEAN function. This function takes the reciprocal of each number in the set, calculates the mean of the reciprocals, and then returns the reciprocal of the mean. This method is useful for finding the average of numbers that have a large range or are highly skewed. To calculate the harmonic mean in Excel, simply select the range of numbers and use the HARMMEAN function in a cell or formula. It is important to note that the HARMMEAN function will return an error if any of the numbers in the set are equal to zero. By using this function, one can easily and accurately determine the harmonic mean of a set of numbers in Excel.

This article describes the formula syntax and usage of the **HARMEAN** function in Microsoft Excel.

Description

Returns the harmonic mean of a data set. The harmonic mean is the reciprocal of the arithmetic mean of reciprocals.

Syntax

HARMEAN(number1, , ...)

The HARMEAN function syntax has the following arguments:

Number1, number2, ... Number1 is required, subsequent numbers are optional. 1 to 255 arguments for which you want to calculate the mean. You can also use a single array or a reference to an array instead of arguments separated by commas.

Remarks

The harmonic mean is always less than the geometric mean, which is always less than the arithmetic mean.

Arguments can either be numbers or names, arrays, or references that contain numbers.

Logical values and text representations of numbers that you type directly into the list of arguments are counted.

If an array or reference argument contains text, logical values, or empty cells, those values are ignored; however, cells with the value zero are included.

Arguments that are error values or text that cannot be translated into numbers cause errors.

If any data point ≤ 0, HARMEAN returns the #NUM! error value.

The equation for the harmonic mean is:

$$\frac{1}{H_y} = \frac{1}{n}\sum\frac{1}{Y_i}$$