How can I calculate critical values in Google Sheets?

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Calculating critical values in Google Sheets is a straightforward process that allows users to determine the significance level in a statistical analysis. Critical values are the threshold values that help determine if a statistical test result is significant or not. To calculate critical values in Google Sheets, one can use the "TINV" function and enter the desired significance level and degrees of freedom. The result will be the critical value for the specified significance level. Alternatively, users can use the "CRITBINOM" function to calculate critical values for binomial distributions. By inputting the desired probability and number of trials, the function will return the critical value. By utilizing these functions, users can easily calculate critical values in Google Sheets and make informed decisions in their statistical analysis.

Calculate Critical Values in Google Sheets

Whenever you perform a , you will get a test statistic as a result. To determine if the results of the test are statistically significant, you can compare the test statistic to a critical value.

If the absolute value of the test statistic is greater than the critical value, then the results of the test are statistically significant.

To find a t-critical value in Google Sheets, you can use the following syntax:

T.INV(probability, deg_freedom) - Returns t-critical value for a one-tailed t-test.T.INV.2T(probability, deg_freedom) - Returns t-critical value for a two-tailed t-test.

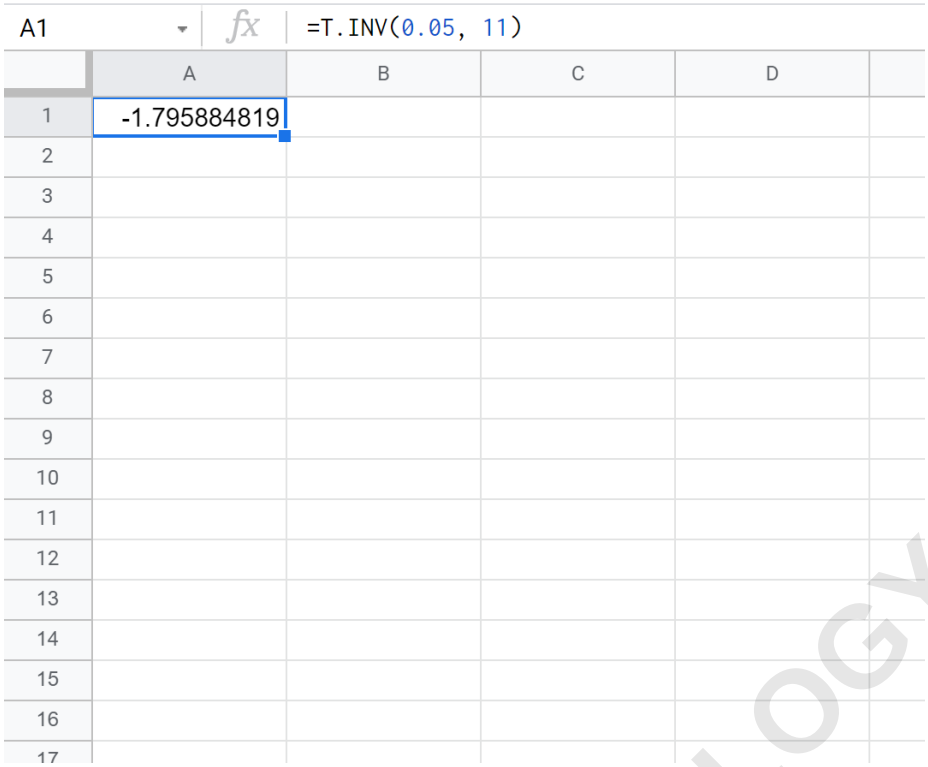
To find a z-critical value in Google sheets, you can use the following syntax:

NORM.S.INV(probability) - Returns critical value for a one-tailed z-test.NORM.S.INV(probability/2) - Returns critical value for a two-tailed z-test.

The following examples show how to use each of these functions in practice.

Example 1: One-Tailed T-Test Critical Value

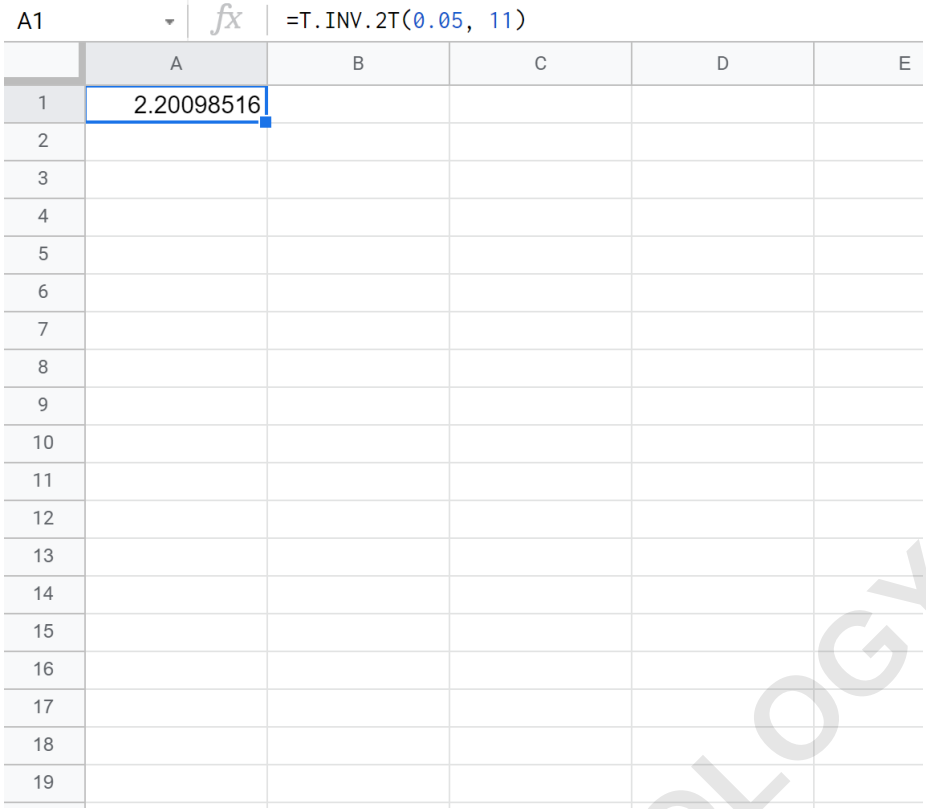
To find the t-critical value for a left-tailed test with a significance level of 0.05 and degrees of freedom = 11, we can type the following formula into Google Sheets:



The critical value is -1.79588.

Example 2: Two-Tailed T-Test Critical Value

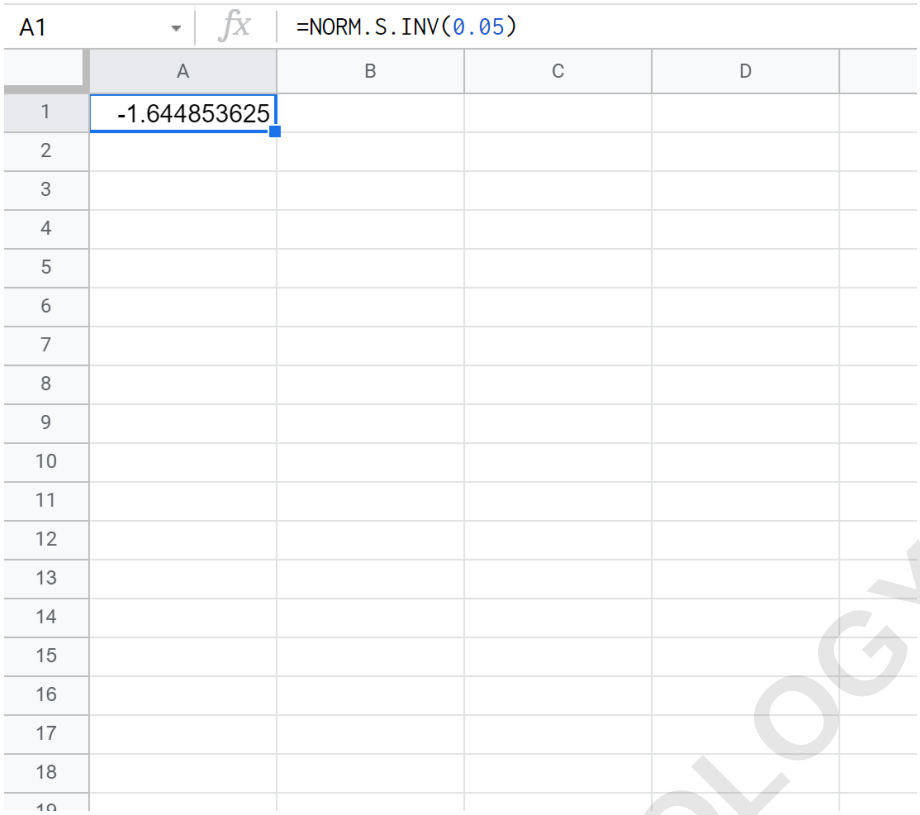
To find the t-critical value for a two-tailed test with a significance level of 0.05 and degrees of freedom = 11, we can type the following formula into Google Sheets:



The critical value is 2.200985.

Example 3: One-Tailed Z-Test Critical Value

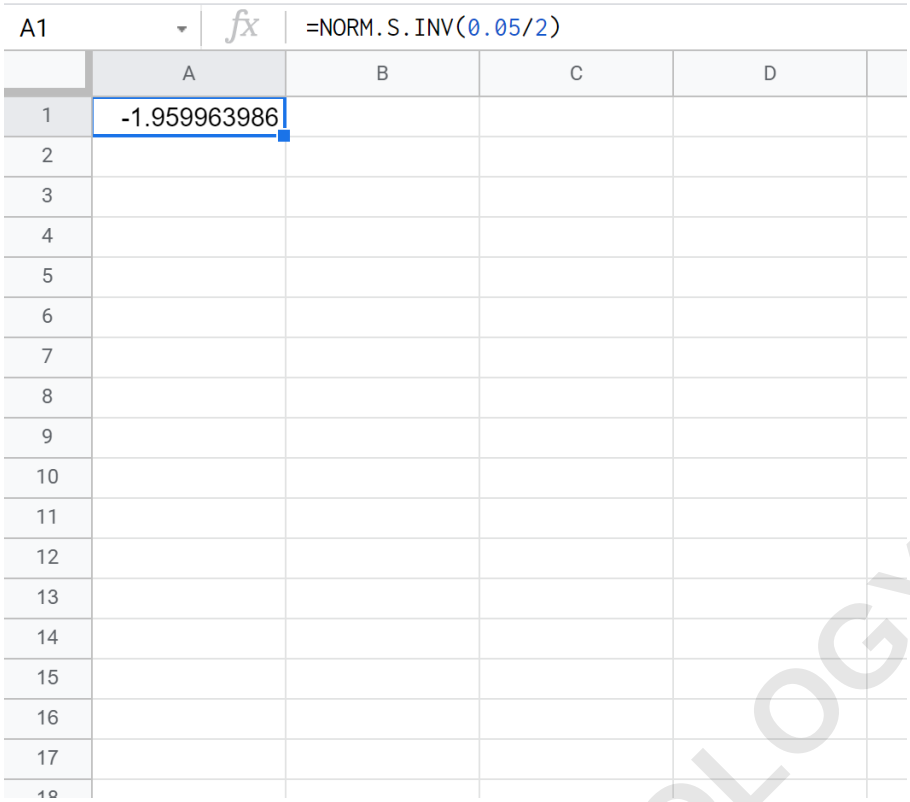
To find the z-critical value for a left-tailed test with a significance level of 0.05, we can type the following formula into Google Sheets:



The critical value is -1.64485.

Example 4: Two-Tailed Z-Test Critical Value

To find the z-critical value for a two-tailed test with a significance level of 0.05, we can type the following formula into Google Sheets:



The critical value is -1.96.

Cautions on Finding Critical Values in Google Sheets

Note that the T.INV(), T.INV.2T(), and NORM.S.INV() functions will throw an error if any of the following occur:

If any argument is non-numeric.If the value for *probability* is less than zero or greater than 1.If the value for *deg_freedom* is less than 1.

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