

How do I find percentiles from z-scores on a TI-84 calculator?

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The process of finding percentiles from z-scores on a TI-84 calculator involves using the "invNorm" function, which calculates the inverse of the normal distribution. This function allows you to input the z-score and the standard deviation to find the corresponding percentile. By following this method, you can easily determine the percentile of a specific value in a normal distribution using your TI-84 calculator.

Find Percentiles from Z-Scores on a TI-84 Calculator

To find the percentile of a z-score on a TI-84 calculator, you can use the following syntax:

normalcdf(-99, z-score, μ , σ)

where:

μ = population mean σ = population standard deviation

To access this function on a TI-84 calculator, simply press 2nd then press VARS then scroll down to normalcdf(and press ENTER.



The following examples show how to use this function in practice.

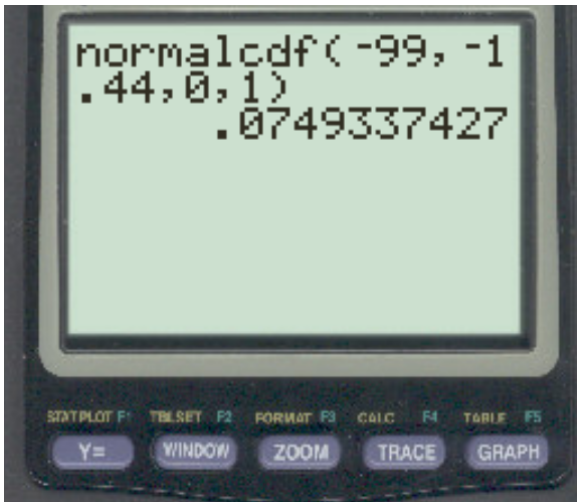
Example 1: Find Percentile of a Negative Z-Score

Suppose we would like to find the percentile that corresponds to a z-score of -1.44.

We can use the following syntax on a TI-84 calculator to find this percentile:

`normalcdf(-99, -1.44, 0, 1)`

Note: We use -99 as the "lower bound" to simulate a value of negative infinity.



The percentile that corresponds to a z-score of -1.44 is 0.0749. This means that only 7.49% of values in the normal distribution fall below a z-score of -1.44.

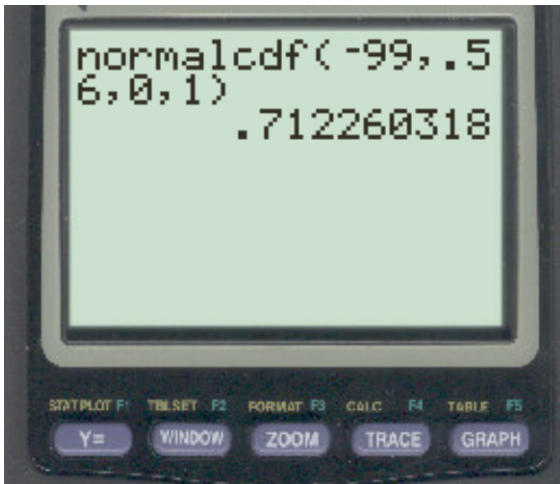
Example 2: Find Percentile of a Positive Z-Score

Suppose we would like to find the percentile that corresponds to a z-score of 0.56.

We can use the following syntax on a TI-84 calculator to find this percentile:

`normalcdf(-99, 0.56, 0, 1)`

Once again we use -99 as the "lower bound" to simulate a value of negative infinity.



The percentile that corresponds to a z-score of 0.56 is 0.7123. This means that 71.23% of values in the normal distribution fall below a z-score of 0.56.

The Relationship Between Percentiles and Z-Scores

Z-scores can take on any value between negative infinity and infinity. Percentiles, however, can only take on values between 0 and 100.

A z-score of 0 corresponds to a percentile of exactly 0.50. Thus, any z-score greater than 0 corresponds to a percentile greater than 0.50 and any z-score less than 0 corresponds to a percentile less than 0.50.