#### ZTEST

[Syntax](Syntax.docx):

ZTEST ( array , test-value [ , sigma ] )

Description: Computes the one-tailed probability-value of a z-test. For a given hypothesized population mean, test-value, ZTEST returns the probability that the sample mean would be greater than the average of observations in the data set array; that is, the observed sample mean.

Mathematical Formula:

When sigma [is](is.docx) present:

Formula

When sigma [is](is.docx) omitted:

Formula

where x is the sample mean AVERAGE(array); s is the sample standard deviation STDEV(array); and [n](n.docx) is the number of observations in the sample COUNT(array).

Arguments:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| array | array | The set of numerical data against which to test test-value. |
| test-value | number | The number to test. |
| sigma | number | The number is the population (known) standard deviation. If omitted, the sample standard deviation is used. |

Return Type and Value: number – The one-tailed probability-value of a z-test.

However, if array is empty, the return value is unspecified.

[Example:  
  
ZTEST({3,6,7,8,6,5,4,2,1,9},4) results in 0.090574197  
ZTEST({3,6,7,8,6,5,4,2,1,9},6) results in 0.863043389  
  
end example]