#### BETAINV

[Syntax](Syntax.docx):

BETAINV ( probability , alpha , beta [ , [ A ] , [ B ] ] )

Description: Computes the inverse of the cumulative distribution function for a specified beta distribution. Given a value for probability, BETAINV is used to seek for the value x such that BETADIST(x, alpha, beta, A, B) = probability. Thus, precision of BETAINV depends on precision of [BETADIST](BETADIST.docx). BETAINV uses an iterative search technique.

Arguments:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| probability | number | A probability associated with the beta distribution. |
| alpha | number | A [parameter](parameter.docx) of the distribution. |
| beta | number | A [parameter](parameter.docx) of the distribution. |
| A | number | The lower bound to the interval of x. If omitted, the lower bound is 0. |
| B | number | The upper bound to the interval of x. If omitted, the upper bound is 1. |

Return Type and Value: number – The inverse of the cumulative distribution function for a specified beta distribution.

However, if

* alpha or beta ≤ 0, #NUM! is returned.
* probability < 0 or probability > 1, #NUM! is returned.
* The search has not converged after some implementation-defined number of iterations, #N/A is returned.

[Example:

BETAINV(0.5,1,2) results in 0.29289341
BETAINV(0.5,1,2,-4.5,7.3) results in -1.043857765
BETAINV(0.5,1,2,,2.3) results in 0.673654842

end example]