Statistics for Journalism

Student: _____

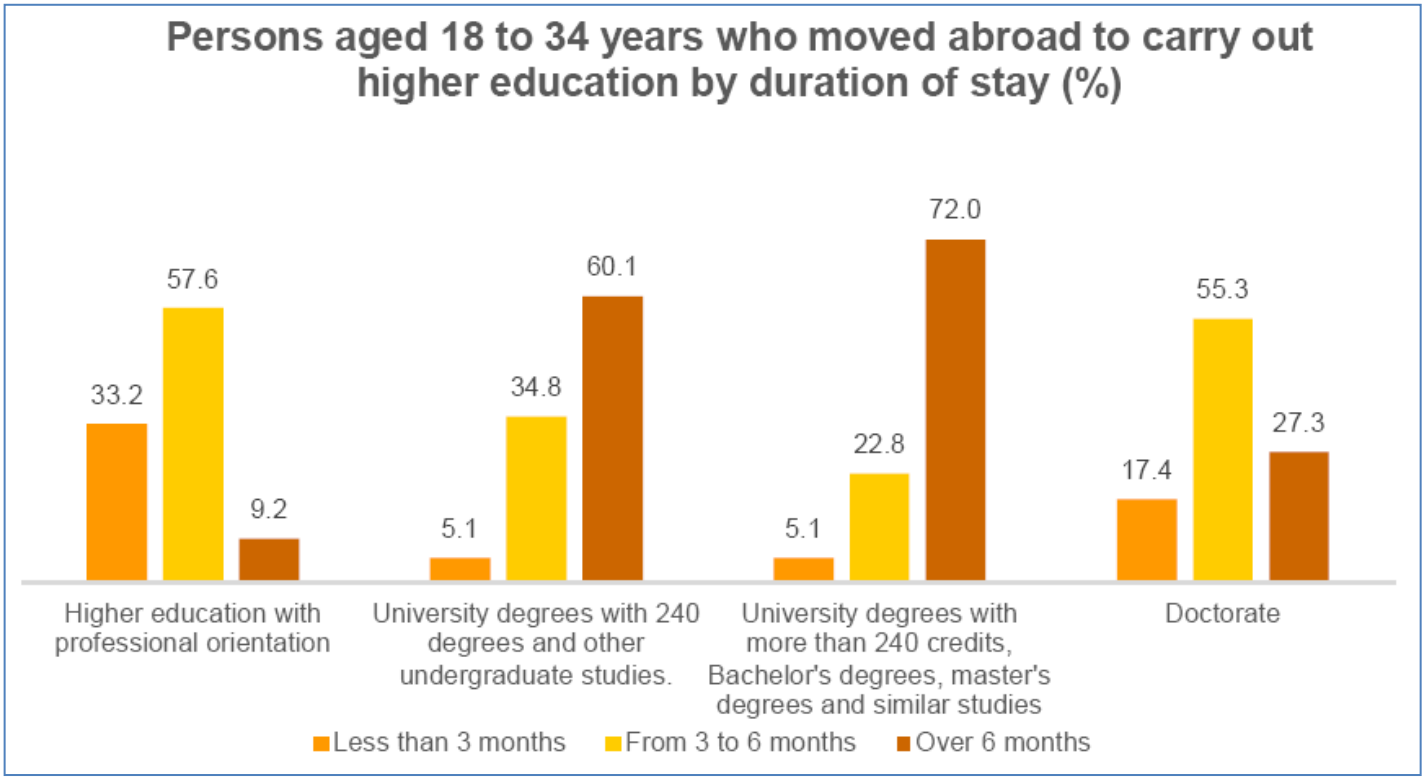
Group: _____ **Date: June 25th 2015**

Exercise 1

Mark your answers to the multiple choice questions in the table below (5 points):

	QUESTION **1.A**	QUESTION **1.B**	QUESTION **1.C**	QUESTION **1.D**	QUESTION **1.E**
(a)					
(b)					
(c)					

In 2014, the Spanish Statistical Agency (INE) conducted a survey about the international mobility of students (EMIDE). The following graphics appear in the press release associated with this survey.



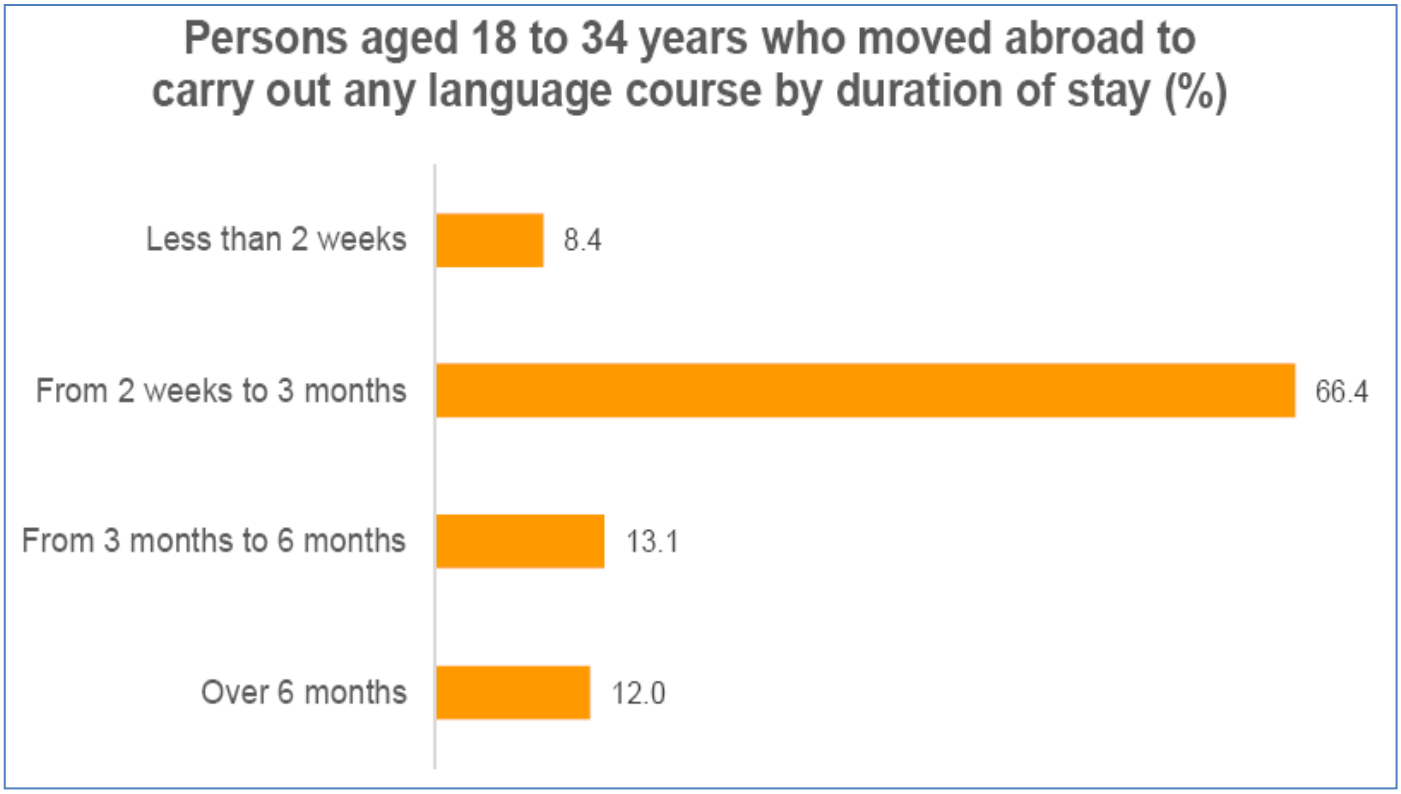
Mark which of the following responses is correct:

Question 1.A) Among people aged 18 to 34 who have moved abroad to carry out Doctorate studies, the length of the modal class of stay is:

(a) Less than 3 months
(b) From 3 to 6 months
(c) More than 6 months

Question 1.B) Among people aged 18 to 34 who have traveled abroad for Doctorate studies, the median class of stay is:

(a) Less than 3 months
(b) From 3 to 6 months
(c) More than 6 months



Question 1.C) The average stay for language courses is approximately equal to:

(a) 1,75 months
(b) 2,85 months
(c) 3,88 months

Note: To answer this question, you can assume that 1 week is equal to 0.25 months and that the midpoint of the class "Over six months" is 9 months.

Question 1.D) Among people aged 18 to 34 who have traveled abroad to take language courses, the percentage of stays of less than 3 months is roughly equal to:

(a) 25,1%

(b) 66,5%

(c) None of above

Question 1.E) The variable linked to the question: Have you moved abroad to study languages? is:

(a) Quantitative and ordinal.

(b) Qualitative and nominal.

(c) Quantitative and discrete.

Exercise 2. Suppose the weekly cost of an English course in Australia follows a normal distribution with mean 325 AUD (Australian dollars) and standard deviation 100 AUD.

a) If we choose an English course (in Australia) at random, what is the probability that the cost is less than 360 AUD?

b) If we choose an English course (in Australia) at random, what is the probability that it costs more than 450 AUD?

c) If we select English courses (in Australia) at random until we find a course that costs less than 360 AUD, what is the probability that we have to select more than two courses?

Note: According to www.españaaustralia.es/estudiar-australia/coste-de-cursos-de-ingles a course in schools attached to universities costs between 360 and 450 AUD.

Exercise 3. The following chart is taken from the online edition of *el País* on May 7th 2015:

PP in lead as Podemos loses ground in latest voting intention poll

CIS survey shows Socialists narrowing the gap with conservatives and Ciudadanos gaining

Anabel Díez Madrid 7 MAY 2015 - 17:17 CEST

If general elections were held in Spain right now, the ruling Popular Party (PP) would win them again with 25.6% of the vote, a new poll shows. The difference is that the Socialists (PSOE) would be close on the conservatives' heels, with a gap of just 1.3% between them.

An April voting intention survey (2500 interviews) conducted by the Center for Sociological Studies (CIS) shows a very different political scenario from the one that prevailed at the last elections three-and-a-half years ago, when the PP obtained an absolute majority and the PSOE was dealt a major blow over its handling of the economic crisis.

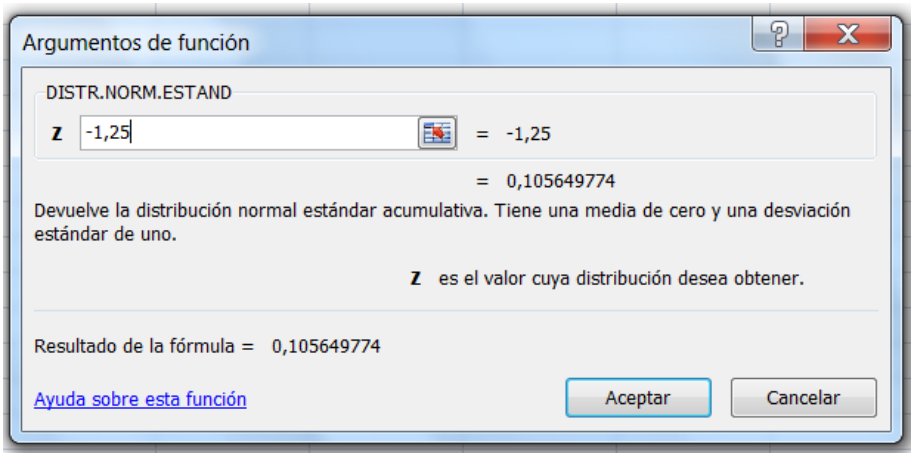
a) Obtain a 95% confidence interval for the percentage of votes that PP would receive in general elections if they were called around the time of the survey.

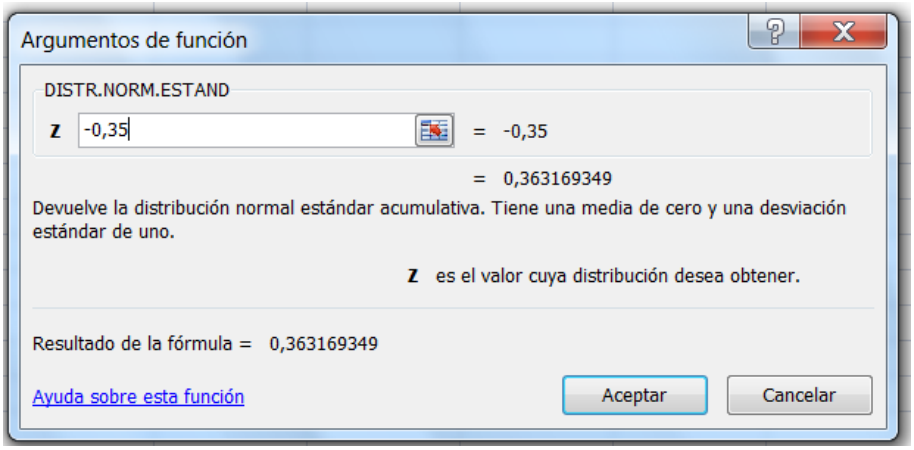
b) Perform the following hypothesis test $\begin{cases} H_0: p = 0{,}25 \\ H_1: p > 0{,}25 \end{cases}$, assuming that *p* denotes the proportion of votes that PP would receive. Based on the results of the hypothesis test, select one of the following headlines:

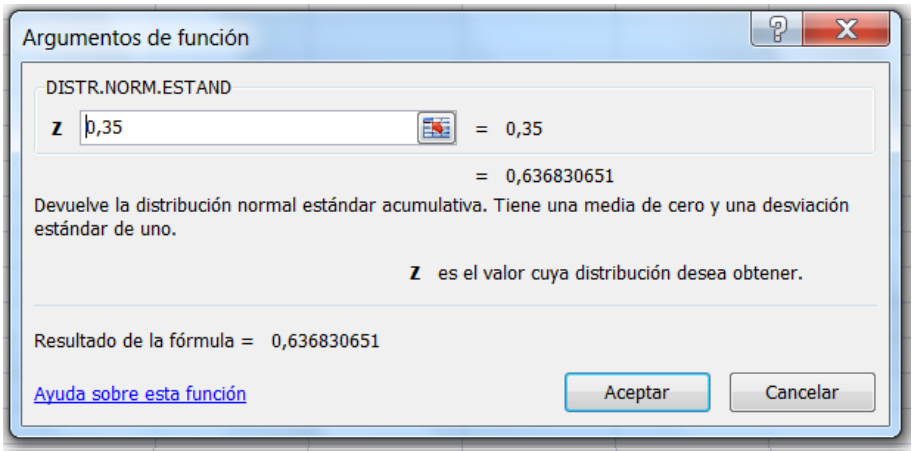
☐ The Popular Party (PP) would receive more than 25% of votes.

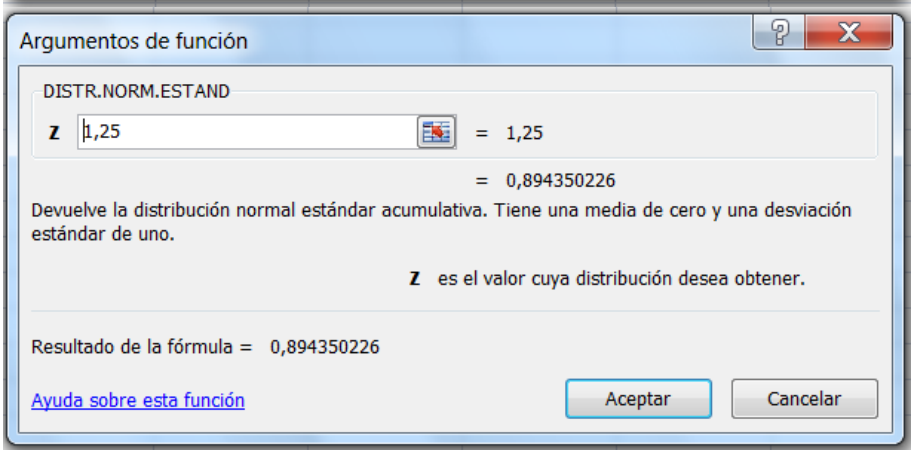
☐ The Popular Party (PP) would not exceed the percentage limit of 25% of votes.

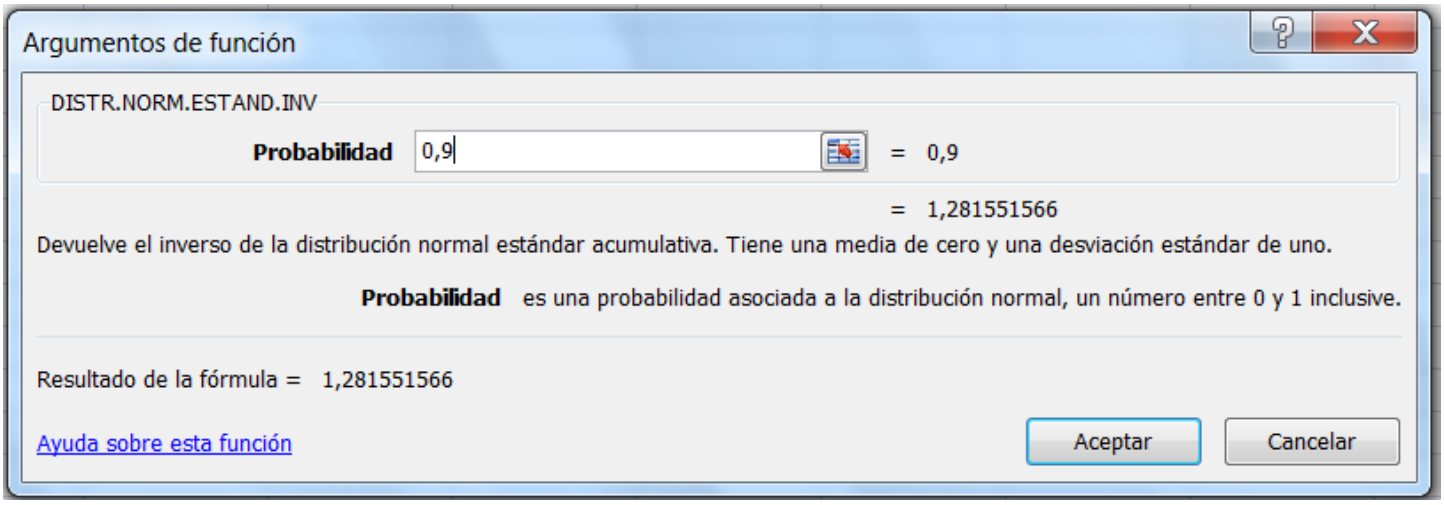
ANNEXES

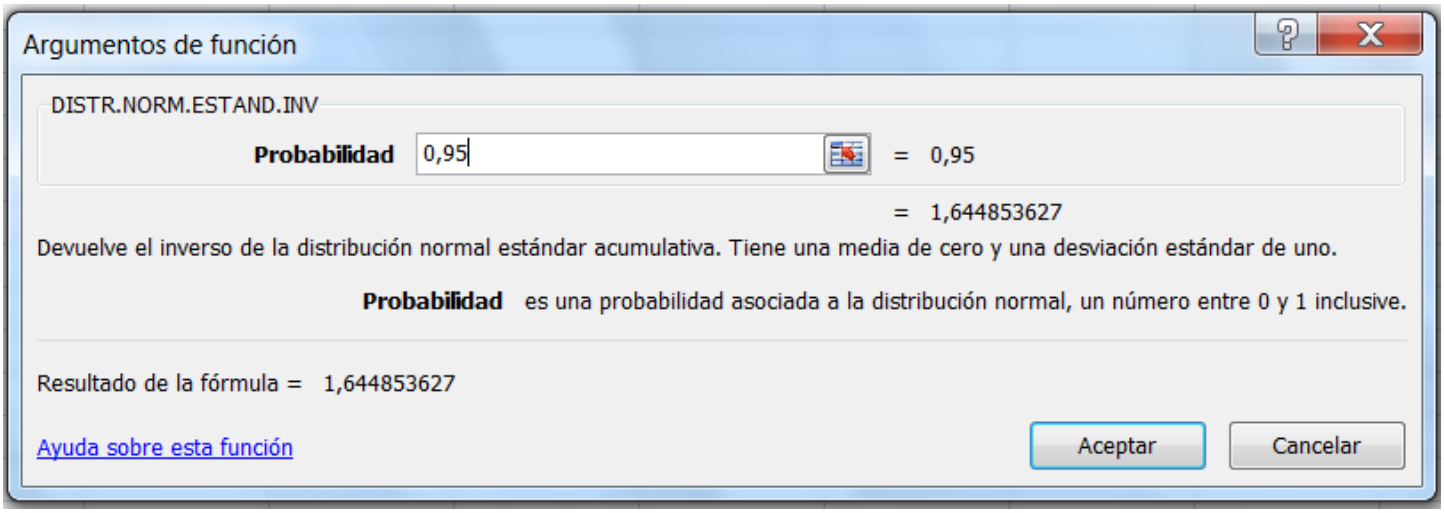

Argumentos de función
DISTR.NORM.ESTAND
Z -1,25
= -1,25
= 0,105649774
Devuelve la distribución normal estándar acumulativa. Tiene una media de cero y una desviación estándar de uno.
Z es el valor cuya distribución desea obtener.
Resultado de la fórmula = 0,105649774
Ayuda sobre esta función
Aceptar
Cancelar

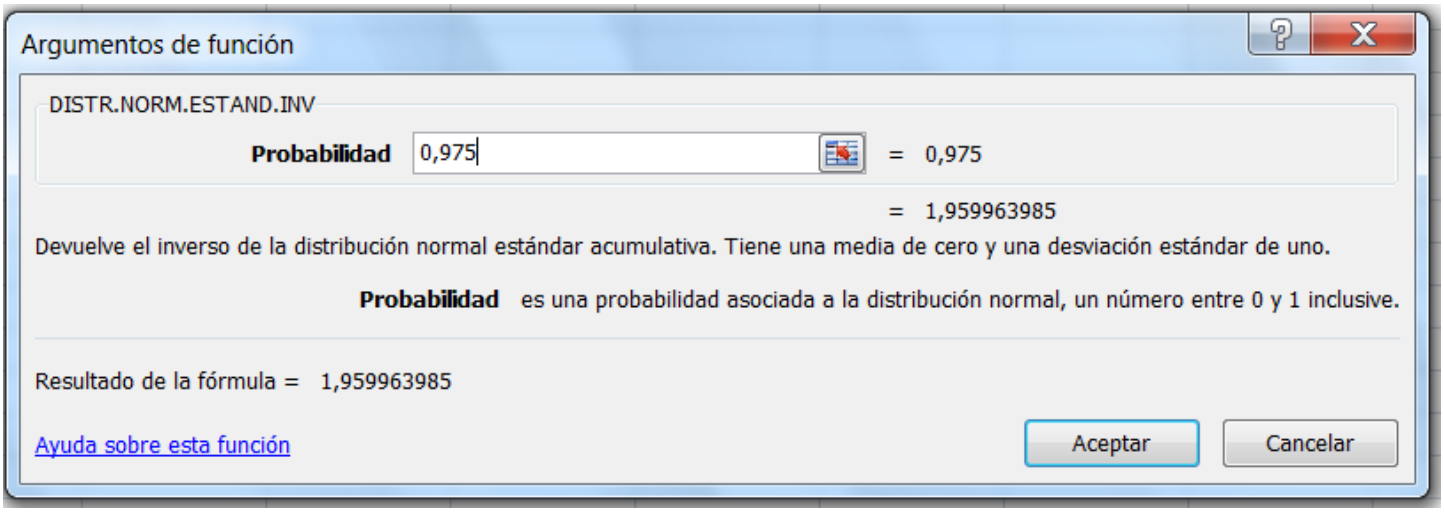

Argumentos de función
DISTR.NORM.ESTAND
Z -0,35
= -0,35
= 0,363169349
Devuelve la distribución normal estándar acumulativa. Tiene una media de cero y una desviación estándar de uno.
Z es el valor cuya distribución desea obtener.
Resultado de la fórmula = 0,363169349
Ayuda sobre esta función
Aceptar
Cancelar


Argumentos de función
DISTR.NORM.ESTAND
Z 0,35
= 0,35
= 0,636830651
Devuelve la distribución normal estándar acumulativa. Tiene una media de cero y una desviación estándar de uno.
Z es el valor cuya distribución desea obtener.
Resultado de la fórmula = 0,636830651
Ayuda sobre esta función
Aceptar
Cancelar


Argumentos de función
DISTR.NORM.ESTAND
Z 1,25
= 1,25
= 0,894350226
Devuelve la distribución normal estándar acumulativa. Tiene una media de cero y una desviación estándar de uno.
Z es el valor cuya distribución desea obtener.
Resultado de la fórmula = 0,894350226
Ayuda sobre esta función
Aceptar
Cancelar


Argumentos de función
DISTR.NORM.ESTAND.INV
Probabilidad 0,9
= 0,9
= 1,281551566
Devuelve el inverso de la distribución normal estándar acumulativa. Tiene una media de cero y una desviación estándar de uno.
Probabilidad es una probabilidad asociada a la distribución normal, un número entre 0 y 1 inclusive.
Resultado de la fórmula = 1,281551566
Ayuda sobre esta función
Aceptar
Cancelar


Argumentos de función
DISTR.NORM.ESTAND.INV
Probabilidad 0,95
= 0,95
= 1,644853627
Devuelve el inverso de la distribución normal estándar acumulativa. Tiene una media de cero y una desviación estándar de uno.
Probabilidad es una probabilidad asociada a la distribución normal, un número entre 0 y 1 inclusive.
Resultado de la fórmula = 1,644853627
Ayuda sobre esta función
Aceptar
Cancelar


Argumentos de función
DISTR.NORM.ESTAND.INV
Probabilidad 0,975
= 0,975
= 1,959963985
Devuelve el inverso de la distribución normal estándar acumulativa. Tiene una media de cero y una desviación estándar de uno.
Probabilidad es una probabilidad asociada a la distribución normal, un número entre 0 y 1 inclusive.
Resultado de la fórmula = 1,959963985
Ayuda sobre esta función
Aceptar
Cancelar