

Chapter 9

Excel Statistical Functions 8

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1. PEARSON

a function used to returns the Pearson product moment correlation coefficient, r , a dimensionless index that ranges from -1.0 to 1.0 inclusive and reflects the extent of a linear relationship between two data sets.

The syntax of the function is:

=PEARSON(array1; array2)

array1 A set of independent values (**required**).

array2 A set of dependent values (**required**).

2. RSQ

a function used to returns the square of the Pearson product moment correlation coefficient through data points in known_y's and known_x's.

The syntax of the function is:

=RSQ(known_y's; known_x's)

known_y's An array or range of data points (**required**).

known_x's An array or range of data points (**required**).

3. PHI

a function used to returns the value of the density function for a standard normal distribution.

The syntax of the function is:

=PHI(x)

x X is the number for which you want the density of the standard normal distribution (**required**).

4. POISSON.DIST

a function used to returns the Poisson distribution.

The syntax of the function is:

=POISSON.DIST(x; mean; cumulative)

x	The number of events (required).
mean	The expected numeric value (required).
cumulative	A logical value that determines the form of the probability distribution returned. If cumulative is TRUE, POISSON.DIST returns the cumulative Poisson probability that the number of random events occurring will be between zero and x inclusive; if FALSE, it returns the Poisson probability mass function that the number of events occurring will be exactly x (required).

5. PROB

a function used to return the probability that values in a range are between two limits.

The syntax of the function is:

=PROB(x_range; prob_range; [lower_limit]; [upper_limit])

x_range	The range of numeric values of x with which there are associated probabilities (required).
prob_range	A set of probabilities associated with values in x_range (required).
[lower_limit]	The lower bound on the value for which you want a probability (optional).
[upper_limit]	The optional upper bound on the value for which you want a probability (optional).

6. SKEW

a function used to returns the skewness of a distribution.

The syntax of the function is:

=SKEW(number1; [number2];...)

number1; [number2];...	Number1 is required, subsequent numbers are optional. 1 to 255 arguments for which you want to calculate skewness.
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7. SKEW.P

a function used to returns the skewness of a distribution based on a population: a characterization of the degree of asymmetry of a distribution around its mean.

The syntax of the function is:

=SKEW.P(number1; [number2]; ...)

number1; [number2]; ...	Number 1 is required, subsequent numbers are optional. Number 1, number 2,... are 1 to 254 numbers or names, arrays, or reference that contain numbers for which you want the population skewness.
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8. STANDARDIZE

a function used to returns a normalized value from a distribution characterized by mean and standard_dev.

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The syntax of the function is:

=STANDARDIZE(x; mean; standard_dev)

x	The value you want to normalize (required).
mean	The arithmetic mean of the distribution (required).
standard_dev	The standard deviation of the distribution (required).

9. T.DIST.2T

a function used in the hypothesis testing of small sample data sets.

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The syntax of the function is:

=T.DIST.2T(x; deg_freedom)

x	The numeric value at which to evaluate the distribution (required).
deg_freedom	An integer indicating the number of degrees of freedom (required).

10. T.DIST

a function used to returns the Student's left-tailed t-distribution.

The syntax of the function is:

=T.DIST(x; deg_freedom; cumulative)

x	The numeric value at which to evaluate the distribution (required).
deg_freedom	An integer indicating the number of degrees of freedom (required).
cumulative	A logical value that determines the form of the function. If cumulative is TRUE, T.DIST returns the cumulative distribution function; if FALSE, it returns the probability density function (required).

11. T.INV.2T

a function used to returns the two-tailed inverse of the Student's t-distribution.

The syntax of the function is:

=T.INV.2T(probability; deg_freedom)

probability The probability associated with the Student's t-distribution (**required**).
deg_freedom The number of degrees of freedom with which to characterize the distribution (**required**).

12. T.INV

a function used to returns the left-tailed inverse of the Student's t-distribution.

The syntax of the function is:

=T.INV(probability; deg_freedom)

probability The probability associated with the Student's t-distribution (**required**).
deg_freedom The number of degrees of freedom with which to characterize the distribution (**required**).

Reference: <https://support.microsoft.com/>