Statistical Excel Functions:

Functions	
Mean	=AVERAGE(data range of cells in a column)
Median	=MEDIAN(data range)
Mode	=MODE.SNGL(data range)
Range	= MAX (data range) - MIN(data range)
Standard deviation	=STDEV.S(data range)
Variance	=VAR.S(data range)

Returns the individual term binomial distribution probability.

Binomial Distribution (probability)

0.3125 **=BINOM.DIST(3, 5, 0.5, FALSE)**

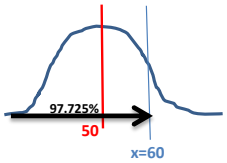
3 = number of successes
5 = sample size (n)
0.5 = probability of a success
False = you don't want the cumulative probability (returns the probability mass function)
True = you want the cumulative probability

Returns the area under a normal curve.

Normal Distribution (probability)

0.97725 **=NORM.DIST(60, 50, 5, TRUE)**

60 = "x" the value at which you are evaluating the distribution
50 = mean of the distribution
5 = standard deviation of the distribution
True = you want the cumulative probability
False = you don't want the cumulative probability (returns the probability mass function)



Returns the inverse of the normal cumulative distribution for a specified mean and standard deviation.
(finds the value "x" at which you want to evaluate the distribution)

60 **=NORM.INV(0.97725, 50, 5)**

0.97725 = probability corresponding to the normal distribution
50 = mean of the distribution
5 = standard deviation of the distribution

Use this function in place of a table of the standard normal curve areas.

0.97725 **=NORM.S.DIST(2.0, TRUE)**

2.0 = the value (z) for which you want the distribution
True = you want the cumulative probability
False = you don't want the cumulative probability (returns the probability mass function)
note: z = (x-u)/std dev

Standardize

Returns a z-score that corresponds to an area under the curve between 0 and 1.

2.0 **=NORM.S.INV(0.97725)**

0.97725 = probability or area under the normal curve

2.0 **=STANDARDIZE(60, 50,5)**

60 = the value (x) you want to normalize
50 = mean
5 = standard deviation of the distribution

Returns the one-tailed p-value of the z-test, the probability a hypothesized mean > sample mean.

Z-test (probability)

0.33569 **=Z.TEST(G54:G61,18,5)**

(B53:B64) = sample data range
hypothesized population mean = 18 =x
5 = population standard deviation (known)

Sample Data
10
12
24
23
20
12
28
21

Returns the right-tailed Student's t-distribution.

The t-distribution is used in the hypothesis testing of small sample data sets. Use this function in place of a table of critical values for the t-distribution.

t - distribution (probability)

0.30472 **=T.DIST.RT(0.6, 2)** **(one tail)**
0.60943 **=T.DIST.2T(0.6, 2)** **(two tail)**

0.6 = value you are looking for (x)
2 = degrees of freedom
2T= two tailed (ends of the curve)

Returns the (right-tailed) F probability distribution (degree of diversity) for two data sets.

F Distribution

0.0173 **=F.DIST.RT(5,2,20)**

5 = value at which you are evaluating the distribution
2 = degrees of freedom regression = no. of variables
20 = degrees of freedom residual = n-p-1

Returns the right-tailed probability of the chi-squared distribution.

Chi-square	0.4121	**= CHISQ.DIST.RT(3.955, 4)**
Distribution		3.955 = calculated chi-square value
(probability)		4 = degrees of freedom = (r-1) x (c-1)
		r = number of rows in the two-way table = 3
		c = number of columns in the two-way table = 3

Returns the probability for the chi-square test for independence.

	pvalue =	**CHISQ.TEST(data range1, data range2)**
		data range 1 = observed (actual) values in the two-way table
		data range 2 = expected (calculated) values in the two-way table