

# Symbol Table

(2 sided)

$f$	frequency with which a value occurs	$z_{\alpha/2}$	critical value of $z$
$\Sigma$	capital sigma; summation	$t$	$t$ distribution
$\Sigma x$	sum of the values	$t_{\alpha/2}$	critical value of $t$
$\Sigma x^2$	sum of the squares of the values	df	number of degrees of freedom
$(\Sigma x)^2$	square of the sum of all values	$F$	$F$ distribution
$\Sigma xy$	sum of the products of each $x$ value multiplied by the corresponding $y$ value	$\chi^2$	chi-square distribution
$n$	number of values in a sample	$\chi_R^2$	right-tailed critical value of chi-square
$n!$	$n$ factorial	$\chi_L^2$	left-tailed critical value of chi-square
$N$	number of values in a finite population; also used as the size of all samples combined	$p$	probability of an event or the population proportion
$k$	number of samples or populations or categories	$q$	probability or proportion equal to $1 - p$
$\bar{x}$	mean of the values in a sample	$\hat{p}$	sample proportion
$\bar{R}$	mean of the sample ranges	$\hat{q}$	sample proportion equal to $1 - \hat{p}$
$\mu$	mu; mean of all values in a population	$\bar{p}$	proportion obtained by pooling two samples
$s$	standard deviation of a set of sample values	$\bar{q}$	proportion or probability equal to $1 - \bar{p}$
$\sigma$	lowercase sigma; standard deviation of all values in a population	$P(A)$	probability of event $A$
$s^2$	variance of a set of sample values	$P(A B)$	probability of event $A$ , assuming event $B$ has occurred
$\sigma^2$	variance of all values in a population	${}_nP_r$	number of permutations of $n$ items selected $r$ at a time
$z$	standard score	${}_nC_r$	number of combinations of $n$ items selected $r$ at a time

# Symbol Table

$\bar{A}$	complement of event $A$	$H$	Kruskal-Wallis test statistic
$H_0$	null hypothesis	$R$	sum of the ranks for a sample; used in the Wilcoxon rank-sum test
$H_1$	alternative hypothesis	$\mu_R$	expected mean rank; used in the Wilcoxon rank-sum test
$\alpha$	alpha; probability of a type I error or the area of the critical region	$\sigma_R$	expected standard deviation of ranks; used in the Wilcoxon rank-sum test
$\beta$	beta; probability of a type II error	$G$	number of runs in runs test for randomness
$r$	sample linear correlation coefficient	$\mu_G$	expected mean number of runs; used in runs test for randomness
$\rho$	rho; population linear correlation coefficient	$\sigma_G$	expected standard deviation for the number of runs; used in runs test for randomness
$r^2$	coefficient of determination	$\mu_{\bar{x}}$	mean of the population of all possible sample means $\bar{x}$
$R^2$	multiple coefficient of determination	$\sigma_{\bar{x}}$	standard deviation of the population of all possible sample means $\bar{x}$
$r_s$	Spearman's rank correlation coefficient	$E$	margin of error of the estimate of a population parameter, or expected value
$b_1$	point estimate of the slope of the regression line	$Q_1, Q_2, Q_3$	quartiles
$b_0$	point estimate of the $y$ -intercept of the regression line	$D_1, D_2, \dots, D_9$	deciles
$\hat{y}$	predicted value of $y$	$P_1, P_2, \dots, P_{99}$	percentiles
$d$	difference between two matched values	$x$	data value
$\bar{d}$	mean of the differences $d$ found from matched sample data		
$s_d$	standard deviation of the differences $d$ found from matched sample data		
$s_e$	standard error of estimate		
$T$	rank sum; used in the Wilcoxon signed-ranks test		