

## 14.1.1: Symbols and Their Meanings

Table B2 Symbols and their Meanings

Chapter (1st used)	Symbol	Spoken	Meaning
Sampling and Data	$\sqrt{\quad}$	The square root of	same
Sampling and Data	$\pi$	Pi	3.14159... (a specific number)
Descriptive Statistics	$Q_1$	Quartile one	the first quartile
Descriptive Statistics	$Q_2$	Quartile two	the second quartile
Descriptive Statistics	$Q_3$	Quartile three	the third quartile
Descriptive Statistics	$IQR$	interquartile range	$Q_3 - Q_1 = IQR$
Descriptive Statistics	$\bar{X}$	$x$ -bar	sample mean
Descriptive Statistics	$\mu$	mu	population mean
Descriptive Statistics	$s$	s	sample standard deviation
Descriptive Statistics	$s^2$	$s$ squared	sample variance
Descriptive Statistics	$\sigma$	sigma	population standard deviation
Descriptive Statistics	$\sigma^2$	sigma squared	population variance
Descriptive Statistics	$\Sigma$	capital sigma	sum
Probability Topics	$\{\}$	brackets	set notation
Probability Topics	$S$	S	sample space
Probability Topics	$A$	Event A	event A
Probability Topics	$P(A)$	probability of A	probability of A occurring
Probability Topics	$P(A B)$	probability of A given B	prob. of A occurring given B has occurred
Probability Topics	$P(A \cup B)$	prob. of A or B	prob. of A or B or both occurring
Probability Topics	$P(A \cap B)$	prob. of A and B	prob. of both A and B occurring (same time)
Probability Topics	$A'$	A-prime, complement of A	complement of A, not A
Probability Topics	$P(A')$	prob. of complement of A	same
Probability Topics	$G_1$	green on first pick	same
Probability Topics	$P(G_1)$	prob. of green on first pick	same
Discrete Random Variables	$PDF$	prob. density function	same
Discrete Random Variables	$X$	X	the random variable X
Discrete Random Variables	$X \sim$	the distribution of X	same
Discrete Random Variables	$\geq$	greater than or equal to	same
Discrete Random Variables	$\leq$	less than or equal to	same

Chapter (1st used)	Symbol	Spoken	Meaning
Discrete Random Variables	$=$	equal to	same
Discrete Random Variables	$\neq$	not equal to	same
Continuous Random Variables	$f(x)$	f of x	function of x
Continuous Random Variables	$pdf$	prob. density function	same
Continuous Random Variables	$U$	uniform distribution	same
Continuous Random Variables	$Exp$	exponential distribution	same
Continuous Random Variables	$f(x) =$	f of $X$ equals	same
Continuous Random Variables	$m$	m	decay rate (for exp. dist.)
The Normal Distribution	$N$	normal distribution	same
The Normal Distribution	$z$	z-score	same
The Normal Distribution	$Z$	standard normal dist.	same
The Central Limit Theorem	$\bar{X}$	X-bar	the random variable X-bar
The Central Limit Theorem	$\mu_{\bar{x}}$	mean of X-bars	the average of X-bars
The Central Limit Theorem	$\sigma_{\bar{x}}$	standard deviation of X-bars	same
Confidence Intervals	$CL$	confidence level	same
Confidence Intervals	$CI$	confidence interval	same
Confidence Intervals	$EBM$	error bound for a mean	same
Confidence Intervals	$EBP$	error bound for a proportion	same
Confidence Intervals	$t$	Student's t-distribution	same
Confidence Intervals	$df$	degrees of freedom	same
Confidence Intervals	$t_{\frac{\alpha}{2}}$	student t with $\alpha/2$ area in right tail	same
Confidence Intervals	$p'$	p-prime	sample proportion of success
Confidence Intervals	$q'$	q-prime	sample proportion of failure
Hypothesis Testing	$H_0$	H-naught, H-sub 0	null hypothesis
Hypothesis Testing	$H_a$	H-a, H-sub a	alternate hypothesis
Hypothesis Testing	$H_1$	H-1, H-sub 1	alternate hypothesis
Hypothesis Testing	$\alpha$	alpha	probability of Type I error
Hypothesis Testing	$\beta$	beta	probability of Type II error
Hypothesis Testing	$\bar{X}_1 - \bar{X}_2$	X1-bar minus X2-bar	difference in sample means
Hypothesis Testing	$\mu_1 - \mu_2$	mu-1 minus mu-2	difference in population means
Hypothesis Testing	$P'_1 - P'_2$	P1-prime minus P2-prime	difference in sample proportions
Hypothesis Testing	$p_1 - p_2$	p1 minus p2	difference in population proportions
Chi-Square Distribution	$X^2$	Ky-square	Chi-square

Chapter (1st used)	Symbol	Spoken	Meaning
Chi-Square Distribution	$O$	Observed	Observed frequency
Chi-Square Distribution	$E$	Expected	Expected frequency
Linear Regression and Correlation	$y = a + bx$	y equals a plus b-x	equation of a straight line
Linear Regression and Correlation	$\hat{y}$	y-hat	estimated value of y
Linear Regression and Correlation	$r$	sample correlation coefficient	same
Linear Regression and Correlation	$\varepsilon$	error term for a regression line	same
Linear Regression and Correlation	$SSE$	Sum of Squared Errors	same
F-Distribution and ANOVA	$F$	F-ratio	F-ratio

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