TI-83/84 Calculator Programs Used In Statistics

The Math/ Science Center

Probability Distributions

Key Strokes	Format	Returns
2ND VARS (= DISTR)	For normal distribution with mean μ and standard deviation σ	
Option 2:	**normalcdf**(Z_L , Z_U , μ , σ)	Probability that $Z_L \leq Z \leq Z_U$
Option 3:	**invnorm**(P , μ , σ)	Value of Z , Z_P , for which P is the probability that $Z \leq Z_P$
	For t distribution with N_{dof} degrees of freedom	
Option 4:	**invT**(P , N_{dof}) *	Value of t , t_p , for which P is the probability that $t \leq t_P$
Option 6:	**tcdf**(t_L , t_U , N_{dof})	Probability that $t_L \leq t \leq t_U$
	For binomial distribution with n trials, probability of success p	
Option A:	**binompdf**(n, p, x)	Probability of exactly x successes in n trials
Option B:	**binomcdf**(n, p, x)	Probability of x or fewer successes in n trials

*__invT__ not available for TI-83

Confidence Intervals

Key Strokes	What to Enter	Returns
STAT ▶ ▶ (to TESTS)	For normal distribution(s)	
Option 7:	**ZInterval**: Use **Data** (in a list) or **Stats** with standard deviation σ , sample mean $\bar{x}$, and sample size n	Confidence interval for population **mean**
Option 9:	**2-SampZInt**: Use **Data** (in lists) or **Stats** with σ_1 , σ_2 , sample means $\bar{x}_1$ and $\bar{x}_2$, sample sizes n_1 , and n_2	Confidence interval for difference between population **means** from two independent samples
Option A:	**1-PropZInt:** Specify number of successes x in the sample, and sample of size n	Confidence interval for population **proportion** p
Option B:	**2-PropZInt:** Specify numbers of successes, x_1 and x_2 for samples of size n_1 , and n_2	Confidence interval for difference between population **proportions** from two independent samples
	For t distribution(s)	
Option 8:	**TInterval**: Use **Data** (in a list) or **Stats** with sample standard deviation S_X, sample mean $\bar{x}$, sample size n	Confidence interval for population mean
Option 0:	**2-SampTInt**: Use **Data** (in lists) or **Stats** with sample standard deviations s_{x_1} and s_{x_2}, sample means $\bar{x}_1$ and $\bar{x}_2$, for samples of size n_1, and n_2	Confidence interval for difference between population means from two independent samples

Hypothesis Testing

Key Strokes	What to Enter	Returns
STAT ▶ ▶ (to TESTS)	For normal distribution(s)	
Option 1:	**Z-Test**: Use **Data** (in a list) or **Stats** with population mean μ_0, population σ_0 (for null hypothesis), sample mean $\bar{x}$ and sample size n	Tests alternate hypothesis that $\mu \neq \mu_0$, $\mu > \mu_0$, or $\mu < \mu_0$ against null hypothesis that $\mu = \mu_0$
Option 3:	**2-SampZTest**: Use **Data** (in lists) or **Stats** with population means μ_1, μ_2, population σ_1, σ_2 (for null hypothesis), sample means $\bar{x}_1$ and $\bar{x}_2$ and samples sizes n_1 and n_2	Tests alternate hypothesis that $\mu_1 \neq \mu_2$, $\mu_1 > \mu_2$, or $\mu_1 < \mu_2$ against null hypothesis that $\mu_1 = \mu_2$
Option 5:	**1-PropZTest:** Specify population proportion p_0, "number of successes" x in the sample , and sample size n	Tests alternate hypothesis that $p \neq p_0$, $p > p_0$, or $p < p_0$ against null hypothesis that $p = p_0$
Option 6:	**2-PropZTest: the number of successes** x_1 and x_2 in the samples and the sample sizes n_1, and n_2	Tests alternate hypothesis that $p_1 \neq p_2$, $p_1 > p_2$, or $p_1 < p_2$ against null hypothesis that $p_1 = p_2$
	For t distribution(s)	
Option 2:	**T-Test**: Use **Data** (in a list) or **Stats** with population mean μ_0 (for null hypothesis), sample mean $\bar{x}$ and sample standard deviation s_x and the sample of size n	Tests alternate hypothesis that $\mu \neq \mu_0$, $\mu > \mu_0$, or $\mu < \mu_0$ against null hypothesis that $\mu = \mu_0$
Option 4:	**2-SampTTest**: Use **Data** (in lists) or **Stats** with sample means $\bar{x}_1$ and $\bar{x}_2$, sample sizes n_1, and n_2	Tests alternate hypothesis that population means $\mu_1 \neq \mu_2$, $\mu_1 > \mu_2$, or $\mu_1 < \mu_2$ against null hypothesis that $\mu_1 = \mu_2$

General

Key Strokes	Format	Returns
MATH ▶ ▶ ▶ (to PRB)	(enter the number for N first, before the MATH key)	
Option 2:	N **nPr** R	number of permutations (arrangements) of N objects chosen R at a time (order matters)
Option 3:	N **nCr** R	number of combinations (groupings) of N objects chosen R at a time (order doesn't matter)
Option 4:	N**!**	N factorial = N x (N–1) x (N–2) … x 2 x 1 (N objects arranged in order)
Option 5:	**randInt**(I_{LL}, I_{UL}, N)	Generates N random integers between I_{LL} and I_{UL}