

Calculator Functions for the AP Stats Exam

One Variable Data

Function	When to use it	Input Command
1-Var Stats (STAT, CALC)	To find mean, standard deviation, and 5 number summary for a data set.	Enter data in L ₁ and frequency in L ₂ if needed 1-Var Stats L₁ or 1-Var Stats L₁,L₂

Two Variable Data

Function	When to use it	Input Command
LinReg (a + bx) (STAT, CALC) DiagnosticOn	To find the equation for a least squares regression line. To find r and r ² .	Enter values in L ₁ (explanatory) Enter values in L ₂ (response) LinReg (a + bx) L₁,L₂

Probability Calculations

Function	When to use it	Input Command
binompdf (2 nd , VARS, DISTR)	To find the probability of getting <u>exactly</u> X successes in a binomial setting.	binompdf(n, p, X) n: number of trials p: probability of success X: number of successes
binomcdf (2 nd , VARS, DISTR)	To find the probability of getting <u>at most</u> X successes in a binomial setting.	binomcdf(n, p, X) n: number of trials p: probability of success X: number of successes
normalcdf (2 nd , VARS, DISTR)	To find area for an interval in a normal distribution.	normalcdf(lower, upper, mean, SD)
invNorm (2 nd , VARS, DISTR)	To find a boundary value in a normal distribution.	invNorm(area left, mean, SD)
tcdf (2 nd , VARS, DISTR)	To find area for an interval in a t distribution.	tcdf(lower, upper, df)
invT (2 nd , VARS, DISTR)	To find a boundary value in a t distribution.	invT(area left, df)
χ^2 cdf (2 nd , VARS, DISTR)	To find area for an interval in a χ^2 distribution.	χ^2cdf(lower, upper, df)

Confidence Intervals

Function	When to use it	Input Command
1-PropZInt (STAT, TESTS, A:)	To calculate a confidence interval to estimate a <u>single proportion</u> .	1-PropZInt x: number of successes n: sample size C-Level: confidence level
2-PropZInt (STAT, TESTS, B:)	To calculate a confidence interval to estimate a <u>difference of proportions</u> .	2-PropZInt x1: number of successes in sample 1 n1: sample size of sample 1 x2: number of successes in sample 2 n2: sample size of sample 2 C-Level: confidence level
TInterval (STAT, TESTS, 8:)	To calculate a confidence interval to estimate a <u>single mean</u> . Standard deviation of the population is unknown.	TInterval Inpt: Stats \bar{x} : sample mean S_x : sample standard deviation n: sample size C-Level: confidence level
2-SampTInt (STAT, TESTS, 0:)	To calculate a confidence interval to estimate a <u>difference of means</u> . Standard deviation of the populations unknown.	2-SampTInt Inpt: Stats \bar{x}_1 : sample mean of sample 1 S_{x1} : standard deviation of sample 1 n1: sample size of sample 1 \bar{x}_2 : sample mean of sample 2 S_{x2} : standard deviation of sample 2 n2: sample size of sample 2 C-Level: confidence level Pooled: No
LinRegTInt (STAT, TESTS, G:) *only newer calculators have this command*	To calculate a confidence interval to estimate a <u>slope</u> .	LinRegTInt Enter values in L_1 (explanatory) Enter values in L_2 (response) Xlist: L_1 Ylist: L_2 Freq: 1 C-Level: confidence level

Significance Tests

Function	When to use it	Input Command
1-PropZTest (STAT, TESTS, 5:)	To test a claim made about a <u>single proportion</u> .	1-PropZTest p_0 : null value x: number of successes n: sample size Prop: $\neq p_0 < p_0 > p_0$ (alternative)
2-PropZTest (STAT, TESTS, 6:)	To test a claim made about a <u>difference of proportions</u> .	2-PropZTest x1: number of successes sample 1 n1: sample size of sample 1 x2: number of successes sample 2 n2: sample size of sample 2 p1: $\neq p_2 < p_2 > p_2$ (alternative)
T-Test (STAT, TESTS, 2:)	To test a claim made about a <u>single mean</u> Standard deviation of the population is unknown.	T-Test Inpt: Stats μ_0 : null value \bar{x} : sample mean S_x : sample standard deviation n: sample size μ : $\neq \mu_0 < \mu_0 > \mu_0$ (alternative)
2-SampTTest (STAT, TESTS, 4:)	To test a claim made about a <u>difference of means</u> Standard deviation of the populations unknown.	2-SampTTest Inpt: Stats $\bar{x}1$: sample mean of sample 1 S_x1 : standard deviation sample 1 n1: sample size of sample 1 $\bar{x}2$: sample mean of sample 2 S_x2 : standard deviation sample 2 n2: sample size of sample 2 $\mu1$: $\neq \mu_2 < \mu_2 > \mu_2$ (alternative) Pooled: No

Significance Tests – continued

Function	When to use it	Input Command
χ^2 GOF-Test (STAT, TESTS, D:) *only newer calculators have this command*	To test a claim about the <u>distribution of a categorical variable</u> . <ul style="list-style-type: none"> Chi square goodness-of-fit test 	χ^2 GOF-Test Enter observed counts in L ₁ Enter expected counts in L ₂ Observed: L ₁ Expected: L ₂ df: degrees of freedom
χ^2 -Test (STAT, TESTS, C:)	To test a claim about the <u>distribution of a categorical variable</u> . <ul style="list-style-type: none"> Chi square test of homogeneity Chi square test of independence 	χ^2 -Test Enter observed counts in matrix A Observed: [A] Expected: [B] Expected counts appear in matrix B
LinRegTTest (STAT, TESTS, E:)	To test a claim made about the <u>slope</u> of a population regression line.	LinRegTTest Enter values in L ₁ (explanatory) Enter values in L ₂ (response) Xlist: L ₁ Ylist: L ₂ Freq: 1 β : $\neq 0$ < 0 > 0 (alternative)