

BUSINESS STATISTICS MADE EASY - FUNCTIONALITY

for the TiNspire CAS – www.TiNspireApps.com

Combinatorics

$n_1 * n_2 * n_3 * ..$ = Multiplication Principle
 $n!$ = Number of Rearrangements
 nPr = Number of ways to rearrange r given n
 nCr = Number of ways to pick r given n
 n^r = # ways to rearrange n items repeated r times
 $(n+r-1)! / ((n-1)! * r!)$ = Select r given n w. repetition
Binomial Coefficients & Pascal Triangle

Probability & Expected Value

Read: Introduction & Examples
Read: Rules & Properties
Odds <-> Probability
Conditional Probability
Expected Value: Find μ and s
Read: Cards
Read: Dice
Read: Marbles
Read: Coins
 $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$
Check if A and B are dependent or disjoint
 $P(A \text{ or } B \text{ or } C)$

Statistics

Find Average
Find Weighted Average
Find Std Deviation
Find Quartiles & 5-Number Summary
Find Percentiles
Z-score Solver

Regression

Find Regression Line $y = mx + b$
Find Regression Line $y = mx + b$ Step by Step
Find Regression Line $y = a + bx$
Read: All about Linear Regression
Read: Correlation is not Causation!
Find Median-Median Line $y = mx + b$
Find Quadratic Regression $y = ax^2 + bx + c$
Find Cubic Regression $y = ax^3 + bx^2 + cx + d$
Quartic Regression $y = ax^4 + bx^3 + cx^2 + dx + e$
Find Power Regression $y = a * b^x$

Find Exponential Regression $y=a*x^b$
Find Logarithmic Regression $y=a+b*\ln(x)$
Find Sinusoidal Regression $y=a*\sin(bx+c)+d$
Logistic Regression $y=c*e^{(bx)}/(e^{(bx)}+a)$

Distributions

Binomial Distribution Table
Cumulative Binomial Distribution
Normal Distribution
Inverse Normal Solver
Read: About Normal Distributions
Exponential Distribution Table
Geometric Distribution Table
Cumulative Geometric Distribution
Poisson Distribution Table
Cumulative Poisson Distribution
Student T-Distribution Table
Cumulative T-Distribution
Inverse T Solver
X²-Distribution Table
Cumulative X²-Distribution
Inverse X²-Solver
F-Distribution Table
Cumulative F-Distribution
Inverse F-Solver

Confidence Intervals

Read: Confidence Intervals & their Behavior
CI for Mean μ with known Standard Deviation
CI for Mean: Sample Size given Margin of Error
CI for 2 Means with known Standard Deviations
CI for Mean μ with unknown Standard Deviation
CI for 2 Means with unknown Standard Deviations
CI for Proportion p
CI for p : Sample Size given Margin of Error
CI for 2 Proportions
CI for Variance s^2 of Population
CI for Variance s^2 of Sample

Tests of Significance

Read: About Tests of Significance
Z-Test for Mean $H_0:\mu=\mu_0$
Z-Test for Means $H_0:\mu_1=\mu_2$
Z-Test for Proportion $H_0:p=p_0$
Z-Test for Proportions $H_0:p_1=p_2$

T-Test for Mean $H_0: \mu = \mu_0$
T-Test for Means $H_0: \mu_1 = \mu_2$
F-Test for $H_0: s_1 = s_2$
ChiSquared-Test: Goodness of Fit
ChiSquared-Test of Independence

Markov Chains & Stoch. Matrices
Stochastic and Regular Stochastic Matrix
Probability Vector
Terminal State & Fixed Probability Vector
Find A^n
nth State of a Markov Chain: $p_0 * A^n$

Business Statistics
Moving Average
Simple Exponential Smoothing
Exponential Smoothing with Seed
Portfolio Return
Portfolio Risk

Decision Analysis
Wald Mini-Max Strategy
Hurwicz Maxi-Max Strategy
Savage Mixi-Min Strategy
LaPlace Expected-Value Strategy
Unequal Probability Strategy

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