

**TI-84 Labs For Statistics 301**  
**Elementary Statistical Methods**

by

Jonathan Kuhn, Ph.D.  
Associate Professor of Statistics,  
Mathematics, Statistics and Physics,  
Purdue University North Central

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Attendance	Chapter	Topics	Description
1	1	On and Off	
1	1	Random Number Generator	MATH PRB RandInt
2	2	Lists	$L_1, \dots, L_6$
2	2	Clearing Histograms and Other Plots	CLEAR
2	2	Histogram From Raw Data	2nd STAT PLOT, ZOOM ZoomStat, GRAPH, TRACE
2	2	Histogram From Distribution Data	2nd STAT PLOT, ZOOM ZoomStat, GRAPH, TRACE
2	2	Stem and Leaf Display	
3	3	Summary Statistics	STAT CALC 1-Var Stats $L_1$
3	3	Grouped data	STAT CALC 1-Var Stats $L_1, L_2$
3	3	Box and Whiskers Plot	2nd STAT PLOT
4	4	Correlation Coefficient and Scatter	STAT CALC LinReg, 2nd CATALOG
4	4	Linear Regression	STAT CALC LinReg
5	5	Factorials, Permutation, Combination	MATH PRB
6	6	Discrete Probability Distribution	$L_1, \dots$
6	6	Expected Value and Variance	$L_1, \dots$
6	6	Binomial Probability Distribution	2nd DISTR binompdf
6	6	Binomial Cumulative Distribution	2nd DISTR binomcdf
6	6	Graphing The Binomial Distribution	WINDOW, GRAPH
6	6	Poisson Distribution Function	2nd DISTR poissonpdf, poissoncdf
6	6	Graphing The Poisson Distribution	WINDOW, GRAPH
7	7	Probabilities, Percentiles, Normal	2nd DISTR normalcdf, InvNorm
7	7	Graphing The Normal Distribution	2nd STAT PLOT, ZOOM ZoomStat, GRAPH, TRACE
7	7	Normal Probability Plot	2nd STAT PLOT, ZOOM ZoomStat, GRAPH, TRACE
8	8	Sampling Distributions	2nd DISTR normalcdf, InvNorm
9	9	CI For Mean, Known $\sigma$	STAT TESTS ZInterval
9	9	CI For Mean, Unknown $\sigma$	STAT TESTS TInterval
9	9	CI For Proportion	STAT TESTS 1-PropZInt
9	9	Probability For $t$ -distribution	2nd DISTR tcdf
9	9	Percentile For $t$ -distribution	PRGM prgmINVT
9	9	Graphing The $t$ -distribution	WINDOW, GRAPH, 2nd DISTR DRAW
9	9	Probability Chi-Square	2nd DISTR $\chi^2$ cdf
9	9	Percentile Chi-Square	PRGM INVCHI2
9	9	Graphing Chi-Square Distribution	WINDOW, 2nd DISTR $\chi^2$ pdf
10	10	Test For Mean, Known $\sigma$	STAT TESTS Z-Test
10	10	Test For Mean, Unknown $\sigma$	STAT TESTS T-Test
10	10	Test For Proportion	STAT TESTS 1-PropZTest
10	10	Test For Variance	2nd DISTR $\chi^2$ cdf
11	11	CI For Difference In Means	STAT TESTS 2-SampTInt
11	11	Test For Difference in Means	STAT TESTS 2-SampleTTest
11	11	CI For Difference In Proportions	STAT TESTS 2-PropZInt
11	11	Test For Difference in Proportions	STAT TESTS 2-PropZTest
11	11	Test of Ratio of Variances	STAT TESTS 2-SampFTest
11	11	Probability $F$ Distribution	2nd DISTR Fcdf
11	11	Percentile $F$ Distribution	PRGM INV F
11	11	Graphing The $F$ Distribution	WINDOW, 2nd DISTR Fpdf, DRAW
12	12	Goodness of Fit	2nd DISTR $\chi^2$ GOF-Test
12	12	Test of Independence/Homogeneity	STAT TESTS $\chi^2$ -Test
13	13	One Way Analysis of Variance	STAT TESTS ANOVA
14	14	Standard Error of Estimate	STAT TESTS LinRegTTest
14	14	Test/CI $\beta_1$ ; CI/PI $\hat{y}$	STAT TESTS LinRegTTest

**TI-84+ Lab 1 For Statistics 301**

**Topics:** on/off, random numbers generator

**On and Off.** In this exercise we will learn how to turn your calculator ON and OFF.

- Turn on the calculator by pressing the ON button, a black button on the lower left of the calculator. You are at the MAIN screen.
- Turn off your calculator by pushing “2nd”, a yellow button in the upper left corner, followed by ON.

**Random Number Generator.** To generate 20 numbers chosen at random from between 0 and 99, we must first store seed 7 in the random number generator. This essentially changes the “pointer” in the TI-83 to a different location in the random number list stored in the calculator. When everyone in the lab puts in seed 7, all calculators will generate the *same* sequence of random numbers. On the quiz or homework, a seed will be specified, so that everyone in the class uses the same random number sequence and so generates the same sampling distribution.

7 STO → MATH PRB rand ENTER

The number 7 is returned.

Twenty random numbers between 0 and 99 are generated as follows:

MATH PRB randInt( 0, 99, 20) ENTER

The following sequence of random integer values is returned:

21, 99, 57, 28, 80, 59, 56, 35, 89, 85, 54, 64, 82, 41, 2, 49, 66, 41, 64, 67.

This is *not* a simple random sample *without* replacement because values 41 and 64 both occur twice. A simple random sample *without* replacement of 18 numbers can be created from the 20 numbers here simply by eliminating (not using ) the duplicate values 41 and 64. If 20 numbers are required, then the randInt function of the calculator could be used again to generate a few more numbers; two numbers which do not duplicate the first 18 would then be used.