Probability and Statistics using the TI Calculator

TI calculators have a number of capabilities of use to students in introductory statistics courses. The following table outlines those capabilities relevant to introductory statistics at WPI. This information is current as of January, 2001. To learn more about the capabilities of your calculator, consult the user's manual.

	Model				
Capability	73	82	83/83 Plus	86	89/92 Plus
Descriptive measures	$\surd$	$\surd$	$\surd$	$\surd$	$\surd$
Plots:					
Histogram	$\surd$	$\surd$	$\surd$	$\surd$	$\surd$
Boxplot	$\surd$	$\surd^*$	$\surd$	$\surd^*$	$\surd^*$
Scatterplot	$\surd$		$\surd$	$\surd$	$\surd$
Lineplot	$\surd$		$\surd$	$\surd$	$\surd$
Normal Quantile Plot			$\surd$		
Confidence Intervals			$\surd$		
Hypothesis Tests			$\surd$		
Linear Regression	$\surd$	$\surd$	$\surd$	$\surd$	$\surd$
Probability Distributions			$\surd$		

NOTES:

1. **Descriptive measures.** include the mean, standard deviation, and quartiles.

2. **Boxplot.** The usual boxplot, which identifies outliers, is called a **modified boxplot** by TI. Their **boxplot** has whiskers extending to the smallest and largest observations. A $\surd$ in the table indicates both types of boxplots are available. A $\surd^*$ indicates only the TI boxplot is available.

3. The **confidence intervals** available on the TI 83 and 83 Plus are: one and two sample z, one and two sample t, and one and two sample z intervals for proportions.

4. The **hypothesis tests** available on the TI 83 and 83 Plus are: one and two sample z, one and two sample t, one and two sample z tests for proportions, the χ^2 test for two-way tables, the t test for the slope in a simple linear regression, and the F test for equality of means in a one-way ANOVA.

5. **Linear Regression** Capabilities found in all these calculators include simple linear regression, and quadratic polynomial regression. All calculators except the TI 73 also offer cubic and quartic polynomial regression.

6. The TI 83 and TI 83 Plus can calculate values of the probability density function, cumulative distribution function and inverse probability function for a number of continuous distributions, including the normal. They can also calculate values of the probability mass function, and cumulative distribution function for a number of discrete distributions, including the binomial and Poisson.